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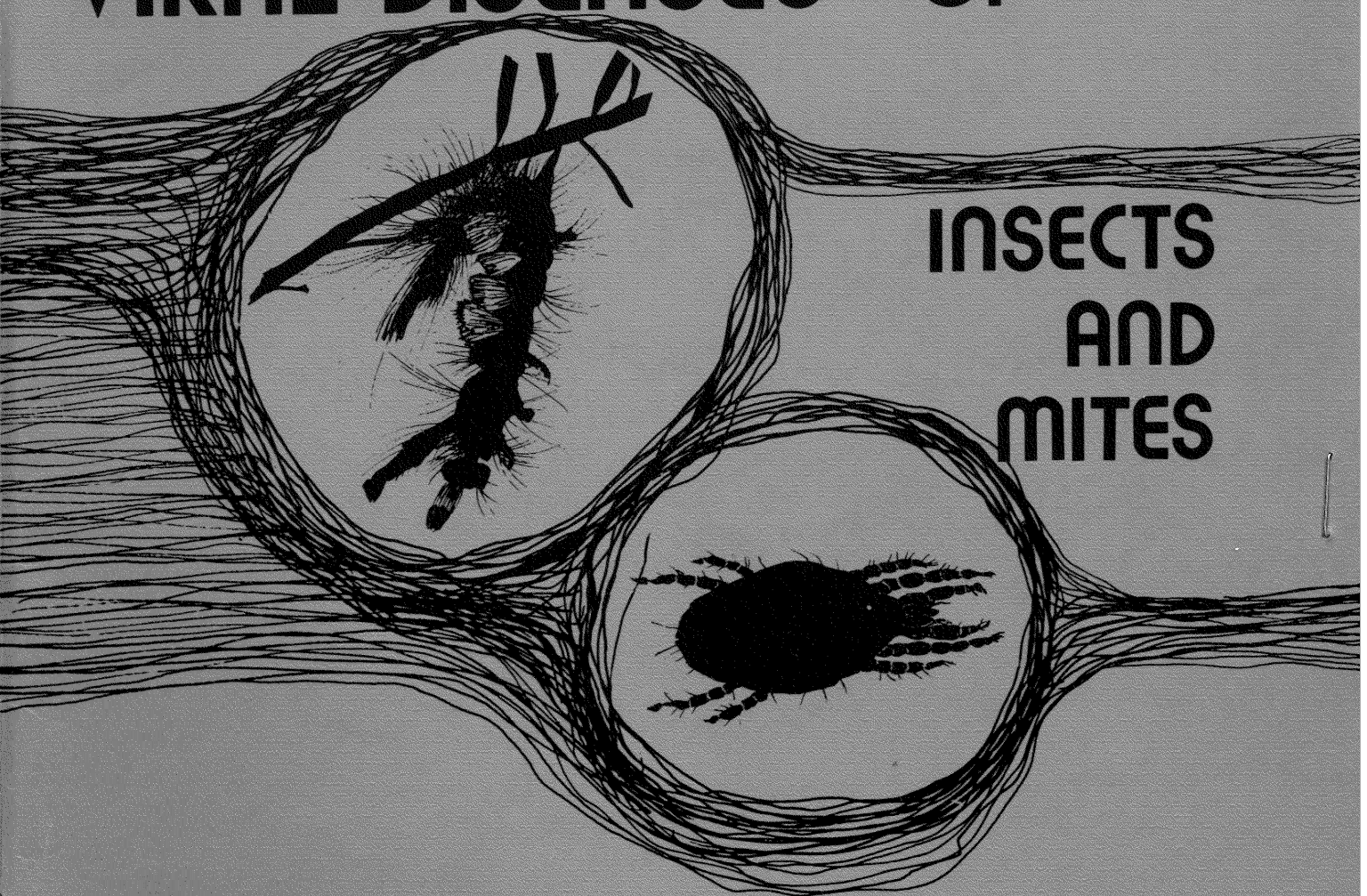
A CATALOG OF VIRAL DISEASES OF INSECTS AND MITES



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ABSTRACT

This comprehensive catalog of viral diseases of two large groups of arthropods updates the previous surveys of the world's literature published by Hughes in 1957 and by Martignoni and Langston in 1960. This computer-based catalog lists over 640 species of insects and mites, each reported to have one or more of 21 viral diseases or disease groups, for a total of about 1,000 host-virus records. The catalog consists of two lists. In the first one the hosts are listed in taxonomic sequence (order, family, genus, species). Species appear alphabetically within each genus, genera alphabetically within each family, and families alphabetically within each order. In the second list, the hosts are listed alphabetically by specific names, without consideration of the higher taxa. The host-virus records are stored on computer tape; additions and corrections to the master

A current list of addenda (recently published host records and disease records) is available and can be obtained from:

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INTRODUCTION

This comprehensive catalog of insects and mites reported to have viral diseases is an example of the kind of documentation one can generate from the computer-assisted information system established at the Forestry Sciences Laboratory in 1970 (Martignoni et al. 1973). The uniqueness of this Catalog lies in its coverage: this Catalog does not only add to, but it also includes viral diseases and species of arthropods previously cataloged in the "Annotated List" published by Hughes (1957) and in its "Supplement" published by Martignoni and Langston (1960). The present Catalog results from our analysis of the information content of 2,600 publications (as of this writing). Of these, 733 formed the basis for the lists published by Hughes (1957) and by Martignoni and Langston (1960). It should be emphasized that those two lists, as well as the present Catalog, are not the result of simple title scans, but rather they were generated from a thorough analysis of each article entered in our master file. The methods of input analysis and preparation have been described by Martignoni et al. (1973). The techniques of information storage and retrieval are those of the eight FAMULUS program subsystems described by Burton et al. (1969) and outlined, in greater detail, in the "FAMULUS User's Manual" (National Technical Information Service 1969).

After completion of the guidelines for the FAMULUS version of the Catalog of Viral Diseases (Martignoni et al. 1973), we decided to develop a cost-saving set of computer routines which would list in a condensed and easily readable format all host-virus records in our master files (which also include the records published by Hughes 1957 and by Martignoni and Langston 1960). This was achieved with the cooperation of the Biometrics Service of our Experiment Station. This set of routines sorts and lists species of insects and mites, along with their viral diseases (as code numbers), in four separate printouts:

(1) The species are listed alphabetically, by specific names; if one species has one or more subspecies, these are listed, too, in alphabetical sequence. This list serves as a general host index by specific names, and it disregards arrangement of the species by higher taxonomic categories.

(2) The genera are listed in alphabetical sequence; species and subspecies are listed alphabetically within each genus.

(3) The families are listed in alphabetical sequence; the genera are listed alphabetically within each family, as well as the species and subspecies within each genus.

(4) The orders are listed in alphabetical sequence; the families and each subsequent lower-rank taxon are listed alphabetically.

Printouts 1 and 4 are reproduced here (appendixes).

Updating these lists requires a minimal effort only, once the appropriate information has been retrieved from specialized literature and entered into the FAMULUS master file. The processing cost for these four printouts is insignificant (less than $3, as of this writing). Thus, updated printouts can be obtained whenever new host records or new disease records are added to the master tapes.

Our Catalog of Viral Diseases uses the currently accepted scientific names of host species. Recent monographs and several specialists were consulted to determine current and correct specific, generic, and family designations. The disease names (see key) are those most commonly used in the English language. Their definitions can be found in the "Abridged Glossary" (Steinhaus and Martignoni 1970), with the exception of "crystalline-array virosis" and of "hairless-black syndrome," two terms only recently added to the list of viral diseases of insects and mites. The

selection of a disease name reflects the information content of each publication. For instance, POLYHEDROSIS (code 16) indicates that the author of a report did not specify whether the disease was a NUCLEOPOLYHEDROSIS (code 12) or a CYTOPLASMIC POLYHEDROSIS (code 5). In a majority of cases, viral diseases have been reported as naturally occurring in their hosts ("natural hosts" or "typical hosts"). In a few cases, however, the reports indicate that the disease resulted from inoculation with a virus originally isolated from another host. Thus, some of the records in the following list represent "accidental hosts," i.e., hosts in which the pathogen is not commonly found, nevertheless hosts susceptible to infection with that pathogen. These few instances have not been marked in the present lists; thus it is not possible to identify accidental hosts. However, information on host specificity (or host range) of the pathogens is contained in the master file.

A rather disturbing situation has arisen in recent years (especially since ultramicrotomes and electron microscopes are no longer restricted to a few priviledged laboratories), one that forced us to lump several records in the broad and ill-defined category PRESUMED VIROSIS (code 17). In our opinion, far too many manuscripts are rushed to the publisher before sufficient evidence has been obtained on the viral nature and pathogenicity of "virus-like" particles discovered in ultrathin sections. In several instances, the viral nature of these particles is only a conjecture. Faced with the dilemma of ignoring such records, or of listing them, we decided for the latter option, with the hope that, eventually, the viral nature of the particles would be confirmed in further studies. In the meantime, the reader should consider each code 17 entry with moderate skepticism.

As the number of reports dealing with viral diseases of insects and mites has been increasing at an accelerated rate since about 1960, publication of a comprehensive list of literature citations in a conventional format is now beyond the scope of this Catalog. The printing cost alone, for such an extensive bibliography, would be prohibitive. Those interested in literature citations can find useful bibliographies in several publications, in addition to those prepared by Hughes (1957) and by Martignoni and Langston (1960). For instance, the literature relating to the nucleopolyhedrosis viruses was reviewed by Bergold (1963), the cytoplasmic polyhedrosis viruses by Smith (1963) and by Aruga and Tanada (1971), the granulosis viruses by Huger (1963), and the viruses pathogenic for the honey bee by Bailey (1963). There are also bibliographies covering the viral diseases of insects and mites in selected geographical areas (e.g., Gershenson 1960, Hukuhara et al. 1966, Smirnoff and Juneau 1973). Finally, for those interested in obtaining one or more virus isolates (from a list of 223 viruses), the catalog by van der Geest and van der Laan (1971) may prove very convenient, as it includes also a list of addresses of individuals or laboratories willing to supply the samples.

The data base for the present Catalog is preserved in a master file (on magnetic tape and on paper) at our Station. We emphasize that the data base consists only of published host records. Unpublished host records (material stored in virus collections, restricted laboratory reports, and personal correspondence) do not appear in the Catalog.

USE OF THE CATALOG

This Catalog of Viral Diseases consists of two lists, much in the same way as the two previous catalogs (Hughes 1957, Martignoni and Langston 1960). The first (app. 1) is a list of hosts, arranged alphabetically by orders, by families (alphabetically within each order),

by genera (alphabetically within each family), and by species (alphabetically within each genus)--and subspecies where appropriate. Each host record is followed by one or more disease code numbers. A key to the codes is available (last sheet) and it can be unfolded to the right side of the pamphlet for convenience.

The second list (app. 2) is an index to hosts by their specific names (trivial names). These names are listed in alphabetical order, regardless of superspecific categories. Unlike indexes in the two previously published catalogs, this index also contains the names of the higher taxa (genus, family, and order) as well as the disease codes, printed on the same line as the specific name. Thus, in this catalog, the index is a guide to hosts listed alphabetically, by their specific names, and at the same time a complete catalog, containing information on taxonomy as well as on pathology.

Both lists (by taxonomic categories and by specific names) are generated simultaneously by the computer, from a single input. We can thus avoid discrepancies between the two lists.

A search for a particular host would not be considered complete unless the synonyms of the generic and specific names were also included in that search. Unfortunately, it would be a Sisyphean task, beyond the scope of our Catalog, to list all synonyms of each host species. However, in table 1 we list some of the most common synonyms (those most frequently encountered in the literature dealing with viral diseases) along with the accepted scientific names of arthropods concerned. Additional synonyms can be found in specialized monographs. Table 1 and, if desirable, such specialized monographs should be consulted before a Catalog search for a given insect or mite species is abandoned.

ACKNOWLEDGMENTS — AND A PLEA FOR ASSISTANCE

The helpful and patient staff of the Biometrics Section of the Pacific Northwest Forest and Range Experiment Station contributed to the preparation of the sorting routines and to the updating of the master file through FAMULUS. We are much indebted to our dedicated colleagues.

We are also grateful to those authors who, for many years, have supplied us with reprints of their publications on viral diseases of insects and mites. We trust that their important contribution to the Catalog of Viral Diseases will continue. We ask those who are interested in the maintenance of this Catalog and who may have noticed errors and missing host records to assist us by completing and mailing to us one or more of the input sheets (inserted at the end of this pamphlet) or by writing us (in the case of corrections and suggestions).[1] If we missed host records, we would also appreciate receiving one reprint of each pertinent publication, for such reprints enable us to complete the necessary analysis of the information content of the publication.

[1]Send forms to authors, Forestry Sciences Laboratory, 3200 Jefferson Way, Corvallis, Oregon 97331, USA.

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Table 1--Alphabetical list (by specific names) of

SYNONYMS	NAMES ACCEPTED IN HOST LIST
AMERICANUM (NEODIPRION)	TAEDAE TAEDAE (NEODIPRION)
ANASTOMOSIS (CLOSTERA)	ANASTOMOSIS (PYGAERA)
ANASTOMOSIS (MELALOPHA)	ANASTOMOSIS (PYGAERA)
AUXILIARIS (CHORIZAGROTIS)	AUXILIARIS (EUXOA)
BIFIDA (CERURA)	HERMELINA (CERURA)
BRASSICAE (AUTOGRAPHA)	NI (TRICHOPLUSIA)
BRASSICAE (BARATHRA)	BRASSICAE (MAMESTRA)
BRASSICAE (PLUSIA)	NI (TRICHOPLUSIA)
CAMPESTRIS (LYDA)	ABIETIS (CEPHALCIA)
CASPIUS DORSALIS (AEDES)	DORSALIS (AEDES)
CAUTELLA (EPHESTIA)	CAUTELLA (CADRA)
CECROPIA (PLATYSAMIA)	CECROPIA (HYALOPHORA)
CHALCYTES (PLUSIA)	CHALCITES (CHRYSODEIXIS)
CHAMPA (TRICHOSEA)	CHAMPA (MOMA)
CONTRACTA (SCOPELODES)	CONTRACTA (BEMBECIA)
CYNTHIA (PHILOSAMIA)	CYNTHIA (SAMIA)
CYNTHIA PRYERI (PHILOSAMIA)	PRYERI (SAMIA)
CYTHEREA CAPENSIS (NUDAURELIA)	CYTHEREA CYTHEREA (NUDAURELIA)
DISPAR (LYMANTRIA)	DISPAR (PORTHETRIA)
EXIGUA (LAPHYGMA)	EXIGUA (SPODOPTERA)
FAGELLA (CHIMBACE)	FAGELLA (DIURNEA)
FASCIATA (DROSOPHILA)	MELANOGASTER (DROSOPHILA)
FRUGIPERDA (LAPHYGMA)	FRUGIPERDA (SPODOPTERA)
GAMMA (PLUSIA)	GAMMA (AUTOGRAPHA)
GRAMINIS (CHARAEAS)	GRAMINIS (CERAPTERYX)
GRISEANA (EUCOSMA)	DINIANA (ZEIRAPHERA)
HYPOTROPHICA (LYDA)	ABIETIS (CEPHALCIA)
IMPARILIS (SPILARCTIA)	LUBRICIPEDA (SPILOSOMA)
JUNODI (ACANTHOPSYCHE)	JUNODI (CRYPTOTHELEA)

some of the most common synonyms of host species

SYNONYMS	NAMES ACCEPTED IN HOST LIST
LARICIPHILA (CEPHALEIA)	ALPINA (CEPHALCIA)
LITURA (PRODENIA)	LITTORALIS (SPODOPTERA)
MARGARITOSA (PERIDROMA)	SAUCIA (PERIDROMA)
MENTHASTRI (SPILOSOMA)	LUBRICIPEDA (SPILOSOMA)
MILLERI (RECURVARIA)	MILLERI (COLEOTECHNITES)
MURINANA (CHORISTONEURA)	MURINANA (CACOECIA)
NARARIA (SUSICA)	NARARIA (NATADA)
OLERACEA (MAMESTRA)	OLERACEA (DIATARAXIA)
OPERCULELLA (GNORIMOSCHEMA)	OPERCULELLA (PHTHORIMAEA)
PAVONIA MAJOR (SATURNIA)	PYRI (SATURNIA)
PHASEOLI (CYDIA)	PHASEOLI (LATHRONYMPHA)
PIPIENS FATIGANS (CULEX)	PIPIENS QUINQUEFASCIATUS (CULEX)
POMONELLA (CARPOCAPSA)	POMONELLA (LASPEYRESIA)
PRATENSIS (TENTHREDO)	NEMORALIS (ACANTHOLYDA)
PSEUDOTSUGATA (HEMEROCAMPA)	PSEUDOTSUGATA (ORGYIA)
QUINQUEMACULATA (PROTOPARCE)	QUINQUEMACULATA (MANDUCA)
RUFUS (LOPHYRUS)	SERTIFER (NEODIPRION)
SEGETUM (SCOTIA)	SEGETUM (AGROTIS)
SEPARATA (LEUCANIA)	SEPARATA (PSEUDALETIA)
SERIATA (STERRHA)	SERIATA (PTYCHOPODA)
SERTIFERA (TENTHREDO)	SERTIFER (NEODIPRION)
SEXTA (PROTOPARCE)	SEXTA (MANDUCA)
STELLATA (LYDA)	NEMORALIS (ACANTHOLYDA)
TRIFOLII (SCOTOGRAMMA)	TRIFOLII (DISCESTRA)
UNDANS (METANASTRIA)	UNDANS (DENDROLIMUS)
UNIPUNCTA (MYTHIMNA)	UNIPUNCTA (PSEUDALETIA)
VULNIFICA (BELLURA)	GORTYNOIDES (BELLURA)
YAMADAI (KUNUGIA)	YAMADAI (DENDROLIMUS)
YPSILON (AGROTIS)	IPSILON (AGROTIS)

APPENDIX 1

List of Hosts by Taxonomic Categories

ORDER	FAMILY	GENUS	SPECIES	DISEASES
ACARINA	TETRANYCHIDAE	PANONYCHUS	CITRI	13 17
ACARINA	TETRANYCHIDAE	PANONYCHUS	ULMI	13
ACARINA	TETRANYCHIDAE	TETRANYCHUS	CINNABARINUS	13 17
ACARINA	TETRANYCHIDAE	TETRANYCHUS	MULTISETIS	17
ACARINA	TETRANYCHIDAE	TETRANYCHUS	TELARIUS	17
COLEOPTERA	BUPRESTIDAE	AGRILUS	SUVOROVI POPULNEUS	5
COLEOPTERA	BUPRESTIDAE	MELANOPHILA	PICTA	5 16
COLEOPTERA	CERAMBYCIDAE	BATOCERA	LINEOLATA	12
COLEOPTERA	CURCULIONIDAE	ANTHONOMUS	GRANDIS	10 12
COLEOPTERA	DERMESTIDAE	ANTHRENUS	MUSEORUM	12 16
COLEOPTERA	DERMESTIDAE	DERMESTES	LARDARIUS	12 16
COLEOPTERA	GYRINIDAE	GYRINUS	NATATOR	13
COLEOPTERA	LUCANIDAE	FIGULUS	SUBLAEVIS	19
COLEOPTERA	SCARABAEIDAE	AMPHIMALLON	SOLSTITIALIS	19
COLEOPTERA	SCARABAEIDAE	ANOMALA	CUPREA	19
COLEOPTERA	SCARABAEIDAE	ANOPLOGNATHUS	POROSUS	19
COLEOPTERA	SCARABAEIDAE	ANOXIA	VILLOSA	19
COLEOPTERA	SCARABAEIDAE	APHODIUS	TASMANIAE	13 19
COLEOPTERA	SCARABAEIDAE	COSTELYTRA	ZEALANDICA	10
COLEOPTERA	SCARABAEIDAE	DASYGNATHUS	SP.	19
COLEOPTERA	SCARABAEIDAE	DEMODENA	BORANENSIS	19
COLEOPTERA	SCARABAEIDAE	DERMOLEPIDA	ALBOHIRTUM	19
COLEOPTERA	SCARABAEIDAE	GEOTRUPES	SILVATICUS	19
COLEOPTERA	SCARABAEIDAE	GEOTRUPES	STERCOROSUS	19
COLEOPTERA	SCARABAEIDAE	HETERONYCHUS	ARATOR	13
COLEOPTERA	SCARABAEIDAE	MELOLONTHA	HIPPOCASTANI	20
COLEOPTERA	SCARABAEIDAE	MELOLONTHA	MELOLONTHA	6 19 20
COLEOPTERA	SCARABAEIDAE	ODONTRIA	SP.	10
COLEOPTERA	SCARABAEIDAE	OPOGONIA	SP.	10
COLEOPTERA	SCARABAEIDAE	ORYCTES	BOAS	20
COLEOPTERA	SCARABAEIDAE	ORYCTES	MONOCEROS	20
COLEOPTERA	SCARABAEIDAE	ORYCTES	NASICORNIS	11 20
COLEOPTERA	SCARABAEIDAE	ORYCTES	RHINOCEROS	11
COLEOPTERA	SCARABAEIDAE	OTHNONIUS	BATESI	19
COLEOPTERA	SCARABAEIDAE	PERICOPTUS	TRUNCATUS	13
COLEOPTERA	SCARABAEIDAE	PHYLLOPERTHA	HORTICOLA	19
COLEOPTERA	SCARABAEIDAE	PHYLLOPHAGA	PLEEI	19
COLEOPTERA	SCARABAEIDAE	RHOPAEA	MORBILLOSA	19
COLEOPTERA	SCARABAEIDAE	RHOPAEA	VERRAUXI	19
COLEOPTERA	SCARABAEIDAE	SCAPANES	AUSTRALIS GROSSEPUNCTATUS	11
COLEOPTERA	SCARABAEIDAE	SERICESTHIS	PRUINOSA	10
COLEOPTERA	TENEBRIONIDAE	TENEBRIO	MOLITOR	10 17
DIPTERA	BIBIONIDAE	BIBIO	MARCI	10
DIPTERA	CALLIPHORIDAE	CALLIPHORA	VOMITORIA	10 12 16
DIPTERA	CERATOPOGONIDAE	CULICOIDES	CAVATICUS	13
DIPTERA	CHAOBORIDAE	CORETHRELLA	APPENDICULATA	10
DIPTERA	CHAOBORIDAE	CORETHRELLA	BRAKELEYI	10
DIPTERA	CHIRONOMIDAE	CHIRONOMUS	ATTENUATUS	19
DIPTERA	CHIRONOMIDAE	CHIRONOMUS	LURIDUS	19
DIPTERA	CHIRONOMIDAE	CHIRONOMUS	PLUMOSUS	5 10
DIPTERA	CHIRONOMIDAE	CHIRONOMUS	TENTANS	12 17 19
DIPTERA	CHIRONOMIDAE	GOELDICHIRONOMUS	HOLOPRASINUS	5 17 19
DIPTERA	COELOPIDAE	CHAETOCOELOPA	SYDNEYENSIS	13
DIPTERA	COELOPIDAE	COELOPA	FRIGIDA	17
DIPTERA	CULICIDAE	AEDES	AEGYPTI	5 6 10 12 17
DIPTERA	CULICIDAE	AEDES	ALBOPICTUS	10 11 13
DIPTERA	CULICIDAE	AEDES	ANNULIPES	10
DIPTERA	CULICIDAE	AEDES	CANTANS	10
DIPTERA	CULICIDAE	AEDES	CINEREUS	6
DIPTERA	CULICIDAE	AEDES	DETRITUS	10
DIPTERA	CULICIDAE	AEDES	DORSALIS	6 10
DIPTERA	CULICIDAE	AEDES	FULVUS PALLENS	10
DIPTERA	CULICIDAE	AEDES	NIGROMACULIS	12
DIPTERA	CULICIDAE	AEDES	SIERRENSIS	10 12
DIPTERA	CULICIDAE	AEDES	SOLLICITANS	5 10 12
DIPTERA	CULICIDAE	AEDES	STICTICUS	10
DIPTERA	CULICIDAE	AEDES	STIMULANS	10
DIPTERA	CULICIDAE	AEDES	TAENIORHYNCHUS	5 10 12 13
DIPTERA	CULICIDAE	AEDES	TORMENTOR	12
DIPTERA	CULICIDAE	AEDES	TRISERIATUS	12 17
DIPTERA	CULICIDAE	AEDES	VEXANS	6 10
DIPTERA	CULICIDAE	ANOPHELES	ALBIMANUS	10 19
DIPTERA	CULICIDAE	ANOPHELES	CRUCIANS	12
DIPTERA	CULICIDAE	ANOPHELES	FREEBORNI	12
DIPTERA	CULICIDAE	ANOPHELES	QUADRIMACULATUS	10 14
DIPTERA	CULICIDAE	ANOPHELES	STEPHENSI	3 5

ORDER	FAMILY	GENUS	SPECIES	DISEASES
DIPTERA	CULICIDAE	ANOPHELES	SUBPICTUS	17
DIPTERA	CULICIDAE	CULEX	PECCATOR	10
DIPTERA	CULICIDAE	CULEX	PIPIENS	3 6
DIPTERA	CULICIDAE	CULEX	PIPIENS QUINQUEFASCIATUS	12
DIPTERA	CULICIDAE	CULEX	RESTUANS	17
DIPTERA	CULICIDAE	CULEX	SALINARIUS	5 10 12
DIPTERA	CULICIDAE	CULEX	TARSALIS	5 12 13
DIPTERA	CULICIDAE	CULEX	TERRITANS	5 10 17
DIPTERA	CULICIDAE	CULISETA	INORNATA	10
DIPTERA	CULICIDAE	CULISETA	MELANURA	5 10
DIPTERA	CULICIDAE	ORTHOPODOMYIA	SIGNIFERA	17
DIPTERA	CULICIDAE	PSOROPHORA	CONFINNIS	10 12 17
DIPTERA	CULICIDAE	PSOROPHORA	FEROX	5 10 12
DIPTERA	CULICIDAE	PSOROPHORA	HORRIDA	10
DIPTERA	CULICIDAE	PSOROPHORA	VARIPES	10 12
DIPTERA	CULICIDAE	URANOTAENIA	SAPPHIRINA	12 17
DIPTERA	CULICIDAE	WYEOMYIA	SMITHII	12
DIPTERA	DROSOPHILIDAE	DROSOPHILA	AFFINIS	3
DIPTERA	DROSOPHILIDAE	DROSOPHILA	ANANASSAE	13
DIPTERA	DROSOPHILIDAE	DROSOPHILA	BIFASCIATA	17
DIPTERA	DROSOPHILIDAE	DROSOPHILA	IMMIGRANS	3 13
DIPTERA	DROSOPHILIDAE	DROSOPHILA	MELANOGASTER	3 13 17
DIPTERA	DROSOPHILIDAE	DROSOPHILA	MONTIUM	13
DIPTERA	DROSOPHILIDAE	DROSOPHILA	PAULISTORUM	17
DIPTERA	DROSOPHILIDAE	DROSOPHILA	PSEUDOOBSCURA	17
DIPTERA	DROSOPHILIDAE	DROSOPHILA	VIRILIS	17
DIPTERA	DROSOPHILIDAE	DROSOPHILA	WILLISTONI	17
DIPTERA	ITONIDIDAE	CONTARINIA	TRITICI	16
DIPTERA	ITONIDIDAE	SITODIPLOSIS	MOSELLANA	16
DIPTERA	MUSCIDAE	GLOSSINA	FUSCIPES FUSCIPES	17
DIPTERA	MUSCIDAE	GLOSSINA	MORSITANS CENTRALIS	17
DIPTERA	MUSCIDAE	MUSCA	DOMESTICA	3
DIPTERA	SCIARIDAE	RHYNCHOSCIARA	ANGELAE	12 17
DIPTERA	SCIARIDAE	RHYNCHOSCIARA	HOLLAENDERI	12
DIPTERA	SCIARIDAE	RHYNCHOSCIARA	MILLERI	12
DIPTERA	SIMULIIDAE	CNEPHIA	MUTATA	5
DIPTERA	SIMULIIDAE	PROSIMULIUM	MIXTUM	5
DIPTERA	SIMULIIDAE	SIMULIUM	ORNATUM	10
DIPTERA	SIMULIIDAE	SIMULIUM	SP.	10
DIPTERA	TACHINIDAE	UGYMYIA	SERICARIAE	12
DIPTERA	TEPHRITIDAE	CERATITIS	CAPITATA	3
DIPTERA	TIPULIDAE	TIPULA	LIVIDA	10
DIPTERA	TIPULIDAE	TIPULA	OLERACEA	10
DIPTERA	TIPULIDAE	TIPULA	PALUDOSA	10 12 16
HEMIPTERA	APHIDIDAE	MYZUS	PERSICAE	17
HEMIPTERA	APHIDIDAE	RHOPALOSIPHUM	MAIDIS	17
HEMIPTERA	CICADELLIDAE	COLLADONUS	MONTANUS	10
HEMIPTERA	CICADELLIDAE	NEPHOTETTIX	CINCTICEPS	10
HEMIPTERA	DELPHACIDAE	LAODELPHAX	STRIATELLA	10
HEMIPTERA	DELPHACIDAE	TAROPHAGUS	PROSERPINA	17
HYMENOPTERA	APIDAE	APIS	MELLIFERA	1 2 6 10 13 15 17 18 21
HYMENOPTERA	ARGIDAE	ARGE	PECTORALIS	12
HYMENOPTERA	BOMBIDAE	BOMBUS	AGRORUM	1
HYMENOPTERA	BOMBIDAE	BOMBUS	HORTORUM	1
HYMENOPTERA	BOMBIDAE	BOMBUS	LUCORUM	1
HYMENOPTERA	BOMBIDAE	BOMBUS	RUDERARIS	1
HYMENOPTERA	BOMBIDAE	BOMBUS	TERRESTRIS	1
HYMENOPTERA	BRACONIDAE	CARDIOCHILES	NIGRICEPS	17
HYMENOPTERA	BRACONIDAE	CHELONUS	TEXANUS	17
HYMENOPTERA	BRACONIDAE	MICROPLITIS	CROCEIPES	17
HYMENOPTERA	DIPRIONIDAE	DIPRION	HERCYNIAE	12
HYMENOPTERA	DIPRIONIDAE	DIPRION	NIPPONICA	12
HYMENOPTERA	DIPRIONIDAE	DIPRION	PALLIDA	12
HYMENOPTERA	DIPRIONIDAE	DIPRION	PINDROWI	12
HYMENOPTERA	DIPRIONIDAE	DIPRION	PINI	12
HYMENOPTERA	DIPRIONIDAE	DIPRION	POLYTOMA	12
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	ABIETIS	12 16
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	EXITANS	12
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	LECONTEI	12 16
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	MERKELI	5
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	MUNDUS	16
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	NANULUS	16
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	NANULUS CONTORTAE	12
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	PRATTI BANKSIANAE	12
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	PRATTI PRATTI	16
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	SERTIFER	12 16 17

ORDER	FAMILY	GENUS	SPECIES	DISEASES
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	SWAINEI	12
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	TAEDAE LINEARIS	12
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	TAEDAE TAEDAE	12 16
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	VIRGINIANA	12
HYMENOPTERA	FORMICIDAE	FORMICA	LUGUBRIS	17
HYMENOPTERA	HALICTIDAE	NOMIA	MELANDERI	17
HYMENOPTERA	MEGACHILIDAE	MEGACHILE	ROTUNDATA	17
HYMENOPTERA	PAMPHILIIDAE	ACANTHOLYDA	NEMORALIS	16
HYMENOPTERA	PAMPHILIIDAE	CEPHALCIA	ABIETIS	16
HYMENOPTERA	PAMPHILIIDAE	CEPHALCIA	ALPINA	16
HYMENOPTERA	PAMPHILIIDAE	CEPHALCIA	ISSIKI	12
HYMENOPTERA	SIRICIDAE	SIREX	JUVENCUS	5
HYMENOPTERA	SIRICIDAE	SIREX	NOCTILIO	5
HYMENOPTERA	SIRICIDAE	UROCERUS	GIGAS GIGAS	5
HYMENOPTERA	SIRICIDAE	UROCERUS	TARDIGRADUS	5
HYMENOPTERA	SIRICIDAE	XERIS	SPECTRUM	5
HYMENOPTERA	TENTHREDINIDAE	ANOPLONYX	DESTRUCTOR	5
HYMENOPTERA	TENTHREDINIDAE	NEMATUS	OLFACIENS	12
HYMENOPTERA	TENTHREDINIDAE	PRISTIPHORA	ERICHSONII	12 16
HYMENOPTERA	TENTHREDINIDAE	PRISTIPHORA	GENICULATA	12
HYMENOPTERA	TENTHREDINIDAE	TRICHIOCAMPUS	IRREGULARIS	12
HYMENOPTERA	TENTHREDINIDAE	TRICHIOCAMPUS	VIMINALIS	12
ISOPTERA	RHINOTERMITIDAE	COPTOTERMES	LACTEUS	17
ISOPTERA	TERMITIDAE	NASUTITERMES	EXITIOSUS	17
ISOPTERA	TERMOPSIDAE	POROTERMES	ADAMSONI	17
LEPIDOPTERA	AEGERIIDAE	SEMBECIA	CONTRACTA	5 12
LEPIDOPTERA	ANTHELIDAE	ANTHELA	VARIA	12
LEPIDOPTERA	ANTHELIDAE	PTEROLOCERA	AMPLICORNIS	12
LEPIDOPTERA	ARCTIIDAE	AMSACTA	ALBISTRIGA	12
LEPIDOPTERA	ARCTIIDAE	AMSACTA	MOOREI	12 19
LEPIDOPTERA	ARCTIIDAE	APANTESIS	VIRGO	16
LEPIDOPTERA	ARCTIIDAE	ARCTIA	CAJA	5 12 16
LEPIDOPTERA	ARCTIIDAE	ARCTIA	VILLICA	5 12
LEPIDOPTERA	ARCTIIDAE	ARDICES	GLATIGNYI	12
LEPIDOPTERA	ARCTIIDAE	CYCNIA	MENDICA	5 12
LEPIDOPTERA	ARCTIIDAE	DIACRISIA	OBLIQUA	9 12
LEPIDOPTERA	ARCTIIDAE	DIACRISIA	PURPURATA	5 12
LEPIDOPTERA	ARCTIIDAE	DIACRISIA	VIRGINICA	12
LEPIDOPTERA	ARCTIIDAE	DIONYCHOPUS	AMASIS	9 13
LEPIDOPTERA	ARCTIIDAE	ECPANTHERIA	ICASIA	9 12
LEPIDOPTERA	ARCTIIDAE	ESTIGMENE	ACREA	5 9 12 16 19
LEPIDOPTERA	ARCTIIDAE	EUPLAGIA	QUADRIPUNCTARIA	5
LEPIDOPTERA	ARCTIIDAE	HALISIDOTA	ARGENTATA	12
LEPIDOPTERA	ARCTIIDAE	HALISIDOTA	CARYAE	12
LEPIDOPTERA	ARCTIIDAE	HYPHANTRIA	CUNEA	5 9 12 16
LEPIDOPTERA	ARCTIIDAE	HYPOCRITA	JACOBAEAE	5 12
LEPIDOPTERA	ARCTIIDAE	PANAXIA	DOMINULA	5 12
LEPIDOPTERA	ARCTIIDAE	PARASEMIA	PLANTAGINIS	5
LEPIDOPTERA	ARCTIIDAE	PERICALLIA	RICINI	9 12
LEPIDOPTERA	ARCTIIDAE	PHRAGMATOBIA	FULIGINOSA	5 9 16
LEPIDOPTERA	ARCTIIDAE	SPILARCTIA	SUBCARNEA	5 12
LEPIDOPTERA	ARCTIIDAE	SPILOSOMA	LUBRICIPEDA	5 12
LEPIDOPTERA	ARCTIIDAE	SPILOSOMA	LUTEA	5
LEPIDOPTERA	BOMBYCIDAE	BOMBYX	MORI	5 6 7 8 10 12 13 14 19
LEPIDOPTERA	BOMBYCIDAE	THEOPHILA	MANDARINA	5 12
LEPIDOPTERA	CARPOSINIDAE	CARPOSINA	NIPONENSIS	12
LEPIDOPTERA	COLEOPHORIDAE	COLEOPHORA	LARICELLA	12
LEPIDOPTERA	CRAMBIDAE	DIATRAEA	SACCHARALIS	9
LEPIDOPTERA	DANAIDAE	DANAUS	PLEXIPPUS	5 16
LEPIDOPTERA	DIOPTIDAE	PHRYGANIDIA	CALIFORNICA	12
LEPIDOPTERA	DREPANIDAE	DREPANA	LACERTINARIA	5
LEPIDOPTERA	EPIPASCHIIDAE	TETRALOPHA	SCORTEALIS	12 16
LEPIDOPTERA	GALLERIIDAE	CORCYRA	CEPHALONICA	12
LEPIDOPTERA	GALLERIIDAE	GALLERIA	MELLONELLA	5 6 10 12 13 16 19
LEPIDOPTERA	GELECHIIDAE	COLEOTECHNITES	MILLERI	9
LEPIDOPTERA	GELECHIIDAE	PECTINOPHORA	GOSSYPIELLA	5 12
LEPIDOPTERA	GELECHIIDAE	PHTHORIMAEA	OPERCULELLA	9 12
LEPIDOPTERA	GEOMETRIDAE	ABRAXAS	GROSSULARIATA	5 12
LEPIDOPTERA	GEOMETRIDAE	ALSOPHILA	POMETARIA	5 9 12
LEPIDOPTERA	GEOMETRIDAE	ANAITIS	PLAGIATA	5 12
LEPIDOPTERA	GEOMETRIDAE	ANTHELIA	HYPERBOREA	12
LEPIDOPTERA	GEOMETRIDAE	BISTON	BETULARIA	5
LEPIDOPTERA	GEOMETRIDAE	BISTON	HIRTARIA	12
LEPIDOPTERA	GEOMETRIDAE	BISTON	HISPIDARIA	12
LEPIDOPTERA	GEOMETRIDAE	BISTON	MARGINATA	16
LEPIDOPTERA	GEOMETRIDAE	BISTON	ROBUSTUM	12

ORDER	FAMILY	GENUS	SPECIES	DISEASES
LEPIDOPTERA	GEOMETRIDAE	BISTON	STRATARIA	12
LEPIDOPTERA	GEOMETRIDAE	BOARMIA	BISTORTATA	12
LEPIDOPTERA	GEOMETRIDAE	BUPALUS	PINIARIUS	5 12 16
LEPIDOPTERA	GEOMETRIDAE	CARIPETA	DIVISATA	12
LEPIDOPTERA	GEOMETRIDAE	CLEORA	SECUNDARIA	17
LEPIDOPTERA	GEOMETRIDAE	CROCALLIS	ELINGUARIA	5
LEPIDOPTERA	GEOMETRIDAE	ECTROPIS	CREPUSCULARIA	16
LEPIDOPTERA	GEOMETRIDAE	ENNOMOS	QUERCARIA	12
LEPIDOPTERA	GEOMETRIDAE	ENNOMOS	QUERCINARIA	12
LEPIDOPTERA	GEOMETRIDAE	ENYPIA	VENATA	12
LEPIDOPTERA	GEOMETRIDAE	ERANNIS	TILIARIA	5 12
LEPIDOPTERA	GEOMETRIDAE	ERANNIS	VANCOUVERENSIS	12
LEPIDOPTERA	GEOMETRIDAE	EULYPE	HASTATA	9
LEPIDOPTERA	GEOMETRIDAE	EUPITHECIA	LONGIPALPATA	12
LEPIDOPTERA	GEOMETRIDAE	HIBERNIA	DEFOLIARIA	12
LEPIDOPTERA	GEOMETRIDAE	LAMBDINA	FISCELLARIA	12 16
LEPIDOPTERA	GEOMETRIDAE	LAMBDINA	FISCELLARIA LUGUBROSA	12 16
LEPIDOPTERA	GEOMETRIDAE	LAMBDINA	FISCELLARIA SOMNIARIA	12 16
LEPIDOPTERA	GEOMETRIDAE	MELANOLOPHIA	IMITATA	12
LEPIDOPTERA	GEOMETRIDAE	NEPYTIA	CANOSARIA	16
LEPIDOPTERA	GEOMETRIDAE	NEPYTIA	PHANTASMARIA	12
LEPIDOPTERA	GEOMETRIDAE	OPEROPHTERA	BRUCEATA	5 12
LEPIDOPTERA	GEOMETRIDAE	OPEROPHTERA	BRUMATA	5 12 16 17 19
LEPIDOPTERA	GEOMETRIDAE	OPEROPHTERA	FAGATA	5
LEPIDOPTERA	GEOMETRIDAE	OPISTHOGRAPTIS	LUTEOLATA	12
LEPIDOPTERA	GEOMETRIDAE	OPORINIA	AUTUMNATA	5 12
LEPIDOPTERA	GEOMETRIDAE	OURAPTERYX	SAMBUCARIA	5
LEPIDOPTERA	GEOMETRIDAE	PALEACRITA	VERNATA	5 12
LEPIDOPTERA	GEOMETRIDAE	PERIBATODES	SIMPLICIARIA	12
LEPIDOPTERA	GEOMETRIDAE	PERO	BEHRENSARIUS	12
LEPIDOPTERA	GEOMETRIDAE	PHIGALIA	PEDARIA	12
LEPIDOPTERA	GEOMETRIDAE	PHIGALIA	TITEA	12
LEPIDOPTERA	GEOMETRIDAE	PROTOBOARMIA	PORCELARIA INDICATARIA	12
LEPIDOPTERA	GEOMETRIDAE	PTYCHOPODA	SERIATA	12 16
LEPIDOPTERA	GEOMETRIDAE	SABULODES	CABERATA	9 16
LEPIDOPTERA	GEOMETRIDAE	SELENIA	LUNARIA	5
LEPIDOPTERA	GEOMETRIDAE	SELIDOSEMA	SUAVIS	12
LEPIDOPTERA	GEOMETRIDAE	SEMIOTHISA	LITURATA	5
LEPIDOPTERA	GEOMETRIDAE	SEMIOTHISA	SEXMACULATA	9
LEPIDOPTERA	GEOMETRIDAE	SYNAXIS	PALLULATA	12
LEPIDOPTERA	HEPIALIDAE	HEPIALUS	LUPULINUS	5
LEPIDOPTERA	HEPIALIDAE	METAHEPIALUS	XENOCTENIS	13
LEPIDOPTERA	HEPIALIDAE	ONCOPERA	ALBOGUTTATA	19
LEPIDOPTERA	HEPIALIDAE	WISEANA	CERVINATA	9 10 12 19
LEPIDOPTERA	HEPIALIDAE	WISEANA	UMBRACULATA	9 12 19
LEPIDOPTERA	HESPERIIDAE	EPARGYREUS	CLARUS	12
LEPIDOPTERA	HESPERIIDAE	THYMELICUS	LINEOLA	12
LEPIDOPTERA	HETEROGENEIDAE	PARASA	CONSOCIA	12
LEPIDOPTERA	LASIOCAMPIDAE	COSMOTRICHE	POTATORIA	12
LEPIDOPTERA	LASIOCAMPIDAE	DENDROLIMUS	PINI	12 16
LEPIDOPTERA	LASIOCAMPIDAE	DENDROLIMUS	SIBIRICUS	9
LEPIDOPTERA	LASIOCAMPIDAE	DENDROLIMUS	SPECTABILIS	5 12
LEPIDOPTERA	LASIOCAMPIDAE	DENDROLIMUS	SUPERANS	5
LEPIDOPTERA	LASIOCAMPIDAE	DENDROLIMUS	UNDANS	5 12
LEPIDOPTERA	LASIOCAMPIDAE	DENDROLIMUS	UNDANS FLAVEOLA	12
LEPIDOPTERA	LASIOCAMPIDAE	DENDROLIMUS	YAMADAI	5 12
LEPIDOPTERA	LASIOCAMPIDAE	ERIOGASTER	LANESTRIS	5
LEPIDOPTERA	LASIOCAMPIDAE	GASTROPACHA	QUERCIFOLIA	5
LEPIDOPTERA	LASIOCAMPIDAE	GASTROPACHA	QUERCIFOLIA CERRIDIFOLIA	5 12
LEPIDOPTERA	LASIOCAMPIDAE	GONOMETA	PODOCARPI	13
LEPIDOPTERA	LASIOCAMPIDAE	LASIOCAMPA	QUERCUS	5
LEPIDOPTERA	LASIOCAMPIDAE	LASIOCAMPA	TRIFOLII	12
LEPIDOPTERA	LASIOCAMPIDAE	MACROTHYLACIA	RUBI	12
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	ALPICOLA	12
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	AMERICANUM	5 12 16
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	CALIFORNICUM	12
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	CONSTRICTUM	12
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	DISSTRIA	5 12 16
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	FRAGILE	12
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	LUTESCENS	12
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	NEUSTRIA	5 12 16
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	NEUSTRIA TESTACEA	5 12 16
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	PLUVIALE	12
LEPIDOPTERA	LIMACODICAE	NIPHADOLEPIS	ALIANTA	17
LEPIDOPTERA	LIMACODIDAE	DARNA	TRIMA	9 13
LEPIDOPTERA	LIMACODIDAE	NAROSA	CONSPERSA	17

ORDER	FAMILY	GENUS	SPECIES	DISEASES
LEPIDOPTERA	LIMACODIDAE	NATADA	NARARIA	9
LEPIDOPTERA	LIMACODIDAE	PARASA	LEPIDA	17
LEPIDOPTERA	LIMACODIDAE	SIBINE	FUSCA	6
LEPIDOPTERA	LIMACODIDAE	SPATULIFIMBRIA	CASTANEICEPS	17
LEPIDOPTERA	LIMACODIDAE	THOSEA	CANA	17
LEPIDOPTERA	LIMACODIDAE	THOSEA	CERVINA	17
LEPIDOPTERA	LIMACODIDAE	THOSEA	RECTA	17
LEPIDOPTERA	LYCAENIDAE	LYCAENA	PHLAEAS	5
LEPIDOPTERA	LYMANTRIIDAE	DASYCHIRA	BASIFLAVA	12
LEPIDOPTERA	LYMANTRIIDAE	DASYCHIRA	CONFUSA	12
LEPIDOPTERA	LYMANTRIIDAE	DASYCHIRA	MENDOSA	12
LEPIDOPTERA	LYMANTRIIDAE	DASYCHIRA	PLAGIATA	12
LEPIDOPTERA	LYMANTRIIDAE	DASYCHIRA	PSEUDABIETIS	12
LEPIDOPTERA	LYMANTRIIDAE	DASYCHIRA	PUDIBUNDA	5 12 16
LEPIDOPTERA	LYMANTRIIDAE	DASYCHIRA	SELENITICA	16
LEPIDOPTERA	LYMANTRIIDAE	EUPROCTIS	CHRYSORRHOEA	5 12 16
LEPIDOPTERA	LYMANTRIIDAE	EUPROCTIS	FLAVA	12
LEPIDOPTERA	LYMANTRIIDAE	EUPROCTIS	PSEUDOCONSPERSA	12
LEPIDOPTERA	LYMANTRIIDAE	EUPROCTIS	SIMILIS	5 12
LEPIDOPTERA	LYMANTRIIDAE	EUPROCTIS	SUBFLAVA	12
LEPIDOPTERA	LYMANTRIIDAE	EUPROCTIS	TERMINALIS	16
LEPIDOPTERA	LYMANTRIIDAE	IVELA	AURIPES	12
LEPIDOPTERA	LYMANTRIIDAE	LYMANTRIA	FUMIDA FUMIDA	5 12
LEPIDOPTERA	LYMANTRIIDAE	LYMANTRIA	INCERTA	12
LEPIDOPTERA	LYMANTRIIDAE	LYMANTRIA	MATHURA AURORA	5 12
LEPIDOPTERA	LYMANTRIIDAE	LYMANTRIA	MONACHA	5 12 16
LEPIDOPTERA	LYMANTRIIDAE	NYGMIA	PHAEORRHOEA	16
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	ANARTOIDES	12
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	ANTIQUA	5 12 16
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	AUSTRALIS	12
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	BADIA	12
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	GONOSTIGMA	12
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	LEUCOSTIGMA	5 12 16
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	PSEUDOTSUGATA	5 12 16
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	TURBATA	12
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	VETUSTA	12
LEPIDOPTERA	LYMANTRIIDAE	PORTHESIA	XANTHOCAMPA	5
LEPIDOPTERA	LYMANTRIIDAE	PORTHETRIA	DISPAR	5 6 10 12 16 19
LEPIDOPTERA	LYMANTRIIDAE	PORTHETRIA	DISPAR JAPONICA	5 12
LEPIDOPTERA	LYMANTRIIDAE	PORTHETRIA	OBFUSCATA	12
LEPIDOPTERA	LYMANTRIIDAE	STILPNOTIA	SALICIS	12 16
LEPIDOPTERA	LYONETIIDAE	BUCCULATRIX	THURBERIELLA	12
LEPIDOPTERA	MEGALOPHYGIDAE	MEGALOPYGE	OPERCULARIS	9
LEPIDOPTERA	NOCTUIDAE	ACHAEA	JANATA	9
LEPIDOPTERA	NOCTUIDAE	ACRONICTA	ACERIS	12
LEPIDOPTERA	NOCTUIDAE	ACTEBIA	FENNICA	12
LEPIDOPTERA	NOCTUIDAE	ADRIS	TYRANNUS AMURENSIS	5
LEPIDOPTERA	NOCTUIDAE	AEDIA	LEUCOMELAS	12
LEPIDOPTERA	NOCTUIDAE	AGROCHOLA	LYCHNIDIS	5
LEPIDOPTERA	NOCTUIDAE	AGROTIS	EXCLAMATIONIS	12
LEPIDOPTERA	NOCTUIDAE	AGROTIS	IPSILON	12
LEPIDOPTERA	NOCTUIDAE	AGROTIS	SEGETUM	5 9 12
LEPIDOPTERA	NOCTUIDAE	ALABAMA	ARGILLACEA	12 16
LEPIDOPTERA	NOCTUIDAE	ALETIA	OXYGALA LUTEOPALLENS	12
LEPIDOPTERA	NOCTUIDAE	AMATHES	C-NIGRUM	5 12
LEPIDOPTERA	NOCTUIDAE	AMATHES	GLAREOSA	5
LEPIDOPTERA	NOCTUIDAE	ANAGRAPHA	FALCIFERA	12
LEPIDOPTERA	NOCTUIDAE	ANCHOSCELI	HELVOLA	5
LEPIDOPTERA	NOCTUIDAE	ANOMIS	FLAVA	12
LEPIDOPTERA	NOCTUIDAE	ANOMOGYNA	ELIMATA	12
LEPIDOPTERA	NOCTUIDAE	ANTICARSIA	GEMMATILIS	16
LEPIDOPTERA	NOCTUIDAE	ANTITYPE	XANTHOMISTA	5
LEPIDOPTERA	NOCTUIDAE	APAMEA	SORDENS	9
LEPIDOPTERA	NOCTUIDAE	ARCTE	COERULEA	5
LEPIDOPTERA	NOCTUIDAE	ARGYROGRAMMA	BASIGERA	12
LEPIDOPTERA	NOCTUIDAE	AUTOGRAPHA	BILOBA	12 16
LEPIDOPTERA	NOCTUIDAE	AUTOGRAPHA	BIMACULATA	12
LEPIDOPTERA	NOCTUIDAE	AUTOGRAPHA	CALIFORNICA	5 9 12
LEPIDOPTERA	NOCTUIDAE	AUTOGRAPHA	GAMMA	5 12
LEPIDOPTERA	NOCTUIDAE	AUTOGRAPHA	NIGRISIGNA	12
LEPIDOPTERA	NOCTUIDAE	AUTOGRAPHA	PRECATIONIS	12
LEPIDOPTERA	NOCTUIDAE	BELLURA	GORTYNOIDES	12
LEPIDOPTERA	NOCTUIDAE	CALOPHASIA	LUNULA	5 12
LEPIDOPTERA	NOCTUIDAE	CATABENA	ESULA	12 16
LEPIDOPTERA	NOCTUIDAE	CATOCALA	CONJUNCTA	12
LEPIDOPTERA	NOCTUIDAE	CATOCALA	NYMPHAEA	12

ORDER	FAMILY	GENUS	SPECIES	DISEASES
LEPIDOPTERA	NOCTUIDAE	CATOCALA	NYMPHAGOGA	12
LEPIDOPTERA	NOCTUIDAE	CERAMICA	PICTA	5 12
LEPIDOPTERA	NOCTUIDAE	CERAPTERYX	GRAMINIS	12 16
LEPIDOPTERA	NOCTUIDAE	CHRYSODEIXIS	CHALCITES	12
LEPIDOPTERA	NOCTUIDAE	DIATARAXIA	OLERACEA	5 9
LEPIDOPTERA	NOCTUIDAE	DICYCLA	OO	12
LEPIDOPTERA	NOCTUIDAE	DIPAROPSIS	WATERSI	12
LEPIDOPTERA	NOCTUIDAE	DISCESTRA	TRIFOLII	12
LEPIDOPTERA	NOCTUIDAE	DRYOBOTA	FURVA	9 12
LEPIDOPTERA	NOCTUIDAE	DRYOBOTA	PROTEA	12
LEPIDOPTERA	NOCTUIDAE	DRYOBOTODES	MONOCHROMA	12
LEPIDOPTERA	NOCTUIDAE	EUPLEXIA	LUCIPARA	9
LEPIDOPTERA	NOCTUIDAE	EUPSILIS	SATELITIA	9
LEPIDOPTERA	NOCTUIDAE	EUXOA	AUXILIARIS	9 12 13 16 19
LEPIDOPTERA	NOCTUIDAE	EUXOA	MESSORIA	5 12
LEPIDOPTERA	NOCTUIDAE	EUXOA	OCHROGASTER	5 9 12 16
LEPIDOPTERA	NOCTUIDAE	FELTIA	SUBTERRANEA	9
LEPIDOPTERA	NOCTUIDAE	HADA	NANA	5
LEPIDOPTERA	NOCTUIDAE	HADENA	BASILINEA	9
LEPIDOPTERA	NOCTUIDAE	HADENA	SERENA	5
LEPIDOPTERA	NOCTUIDAE	HADENA	SORDIDA	9 12
LEPIDOPTERA	NOCTUIDAE	HELIOPHOBUS	ALBICOLON	5
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	ARMIGERA	5 9 12
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	ASSULTA	12
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	OBSOLETA	12
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	OBTECTUS	12
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	PELTIGERA	12
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	PHLOXIPHAGA	12 16
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	PUNCTIGERA	9 12
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	RUBRESCENS	9
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	SUBFLEXA	12
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	VIRESCENS	5 12 16
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	ZEA	5 9 12 13
LEPIDOPTERA	NOCTUIDAE	LAMPRA	FIMBRIATA	5
LEPIDOPTERA	NOCTUIDAE	LITHOPHANE	LEAUTIERI	5
LEPIDOPTERA	NOCTUIDAE	MAMESTRA	BRASSICAE	5 6 12
LEPIDOPTERA	NOCTUIDAE	MAMESTRA	CONFIGURATA	12
LEPIDOPTERA	NOCTUIDAE	MANIA	MAURA	5
LEPIDOPTERA	NOCTUIDAE	MELANCHRA	PERSICARIAE	9
LEPIDOPTERA	NOCTUIDAE	MOCIS	UNDATA	5
LEPIDOPTERA	NOCTUIDAE	MOMA	CHAMPA	12
LEPIDOPTERA	NOCTUIDAE	NEPHELODES	EMMEDONIA	9 12 16
LEPIDOPTERA	NOCTUIDAE	OPHIUSA	CORONATA	17
LEPIDOPTERA	NOCTUIDAE	ORAESIA	EMARGINATA	5 12
LEPIDOPTERA	NOCTUIDAE	ORAESIA	EXCAVATA	5
LEPIDOPTERA	NOCTUIDAE	PANOLIS	FLAMMEA	12 16
LEPIDOPTERA	NOCTUIDAE	PANTHEA	PORTLANDIA	12
LEPIDOPTERA	NOCTUIDAE	PAPAIPEMA	PURPURIFASCIA	9
LEPIDOPTERA	NOCTUIDAE	PERIDROMA	SAUCIA	9 12 16
LEPIDOPTERA	NOCTUIDAE	PERSECTANIA	EWINGII	9
LEPIDOPTERA	NOCTUIDAE	PHLOGOPHORA	METICULOSA	5 12
LEPIDOPTERA	NOCTUIDAE	PLATHYPENA	SCABRA	9
LEPIDOPTERA	NOCTUIDAE	PLUSIA	ARGENTIFERA	12
LEPIDOPTERA	NOCTUIDAE	PLUSIA	BALLUCA	12
LEPIDOPTERA	NOCTUIDAE	PLUSIA	ORICHALCEA	12
LEPIDOPTERA	NOCTUIDAE	PODIOPLUSIA	PEPONIS	12
LEPIDOPTERA	NOCTUIDAE	PRODENIA	ANDROGEA	9
LEPIDOPTERA	NOCTUIDAE	PRODENIA	LITOSIA	12
LEPIDOPTERA	NOCTUIDAE	PRODENIA	ORNITHOGALLI	12 16
LEPIDOPTERA	NOCTUIDAE	PRODENIA	PRAEFICA	12
LEPIDOPTERA	NOCTUIDAE	PRODENIA	TERRICOLA	12
LEPIDOPTERA	NOCTUIDAE	PSEUDALETIA	CONVECTA	9 12
LEPIDOPTERA	NOCTUIDAE	PSEUDALETIA	SEPARATA	9 12 13
LEPIDOPTERA	NOCTUIDAE	PSEUDALETIA	UNIPUNCTA	5 9 10 12 13 16
LEPIDOPTERA	NOCTUIDAE	PSEUDOPLUSIA	INCLUDENS	12
LEPIDOPTERA	NOCTUIDAE	RACHIPLUSIA	NU	12 16
LEPIDOPTERA	NOCTUIDAE	RACHIPLUSIA	OU	12
LEPIDOPTERA	NOCTUIDAE	SCOLIOPTERYX	LIBATRIX	5 12
LEPIDOPTERA	NOCTUIDAE	SESAMIA	CRETICA	9
LEPIDOPTERA	NOCTUIDAE	SESAMIA	NONAGRIOIDES	9
LEPIDOPTERA	NOCTUIDAE	SPAELOTIS	CLANDESTINA	16
LEPIDOPTERA	NOCTUIDAE	SPODOPTERA	EXEMPTA	12 17
LEPIDOPTERA	NOCTUIDAE	SPODOPTERA	EXIGUA	5 9 12
LEPIDOPTERA	NOCTUIDAE	SPODOPTERA	FRUGIPERDA	9 11 12 16
LEPIDOPTERA	NOCTUIDAE	SPODOPTERA	LITTORALIS	5 9 12 16
LEPIDOPTERA	NOCTUIDAE	SPODOPTERA	MAURITIA	12 16

ORDER	FAMILY	GENUS	SPECIES	DISEASES
LEPIDOPTERA	NOCTUIDAE	SPODOPTERA	MAURITIA ACRONYCTOIDES	12
LEPIDOPTERA	NOCTUIDAE	SYNGRAPHA	SELECTA	12
LEPIDOPTERA	NOCTUIDAE	TRICHOPLUSIA	NI	5 9 10 12
LEPIDOPTERA	NOCTUIDAE	TRIPHAENA	PRONUBA	5
LEPIDOPTERA	NOCTUIDAE	XYLOMYGES	CONSPICILLARIS	5
LEPIDOPTERA	NOTODONTIDAE	CERURA	HERMELINA	12 16
LEPIDOPTERA	NOTODONTIDAE	CERURA	VINULA	5
LEPIDOPTERA	NOTODONTIDAE	HETEROCAMPA	GUTTIVITA	16
LEPIDOPTERA	NOTODONTIDAE	LOPHOPTERYX	CAPUCINA	5
LEPIDOPTERA	NOTODONTIDAE	NADATA	GIBBOSA	12
LEPIDOPTERA	NOTODONTIDAE	PHALERA	BUCEPHALA	5 12
LEPIDOPTERA	NOTODONTIDAE	PYGAERA	ANASTOMOSIS	5 9 12 17
LEPIDOPTERA	NOTODONTIDAE	PYGAERA	ANASTOMOSIS ORIENTALIS	5 12
LEPIDOPTERA	NOTODONTIDAE	PYGAERA	ANASTOMOSIS TRISTIS	5 12
LEPIDOPTERA	NOTODONTIDAE	SCHIZURA	CONCINNA	5
LEPIDOPTERA	NOTODONTIDAE	STAUROPUS	ALTERNUS	16
LEPIDOPTERA	NYMPHALIDAE	AGLAIS	URTICAE	5 6 12 16
LEPIDOPTERA	NYMPHALIDAE	AGRAULIS	VANILLAE	12
LEPIDOPTERA	NYMPHALIDAE	ARGYNNIS	DIA	5
LEPIDOPTERA	NYMPHALIDAE	ARGYNNIS	LATHONIA	16
LEPIDOPTERA	NYMPHALIDAE	ARGYNNIS	PAPHIA	12 16
LEPIDOPTERA	NYMPHALIDAE	ASTEROCAMPA	CELTIS	12
LEPIDOPTERA	NYMPHALIDAE	CHARAXES	JASIUS	16
LEPIDOPTERA	NYMPHALIDAE	JUNONIA	COENIA	6 9 12 16
LEPIDOPTERA	NYMPHALIDAE	NYMPHALIS	ANTIOPA	5 9 12 16
LEPIDOPTERA	NYMPHALIDAE	NYMPHALIS	IO	5 12 16
LEPIDOPTERA	NYMPHALIDAE	NYMPHALIS	POLYCHLOROS	16
LEPIDOPTERA	NYMPHALIDAE	POLYGONIA	C-ALBUM	5 12
LEPIDOPTERA	NYMPHALIDAE	POLYGONIA	SATYRUS	12
LEPIDOPTERA	NYMPHALIDAE	VANESSA	ATALANTA	12 16
LEPIDOPTERA	NYMPHALIDAE	VANESSA	CARDUI	5 12 16
LEPIDOPTERA	NYMPHALIDAE	VANESSA	TAMMEAMEA	16
LEPIDOPTERA	OECOPHORIDAE	DIURNEA	FAGELLA	16
LEPIDOPTERA	OLETHRELTIDAE	ARGYROPLOCE	LEUCOTRETA	5
LEPIDOPTERA	OLETHREUTIDAE	EXARTEMA	APPENDICEUM	9
LEPIDOPTERA	OLETHREUTIDAE	LASPEYRESIA	POMONELLA	9 16
LEPIDOPTERA	OLETHREUTIDAE	RHYACIONIA	DUPLANA	9 12
LEPIDOPTERA	OLETHREUTIDAE	SPILONOTA	OCELLANA	12
LEPIDOPTERA	OLETHREUTIDAE	ZEIRAPHERA	DINIANA	9 12 16 19
LEPIDOPTERA	PAMPHILIIDAE	CEPHALCIA	FASCIPENNIS	9
LEPIDOPTERA	PAPILIONIDAE	LUEHDORFIA	JAPONICA	12
LEPIDOPTERA	PAPILIONIDAE	PAPILIO	MACHAON	5
LEPIDOPTERA	PAPILIONIDAE	PAPILIO	PODALIRIUS	12
LEPIDOPTERA	PHALONIIDAE	CLYSIANA	AMBIGUELLA	16
LEPIDOPTERA	PHYCITIDAE	ANAGASTA	KUHNIELLA	12
LEPIDOPTERA	PHYCITIDAE	CACTOBLASTIS	CACTORUM	5
LEPIDOPTERA	PIERIDAE	APORIA	CRATAEGI	5 12 16
LEPIDOPTERA	PIERIDAE	COLIAS	CHRYSOTHEME CHRYSOTHEME	16
LEPIDOPTERA	PIERIDAE	COLIAS	ELECTO	12 16
LEPIDOPTERA	PIERIDAE	COLIAS	EURYTHEME	5 12
LEPIDOPTERA	PIERIDAE	COLIAS	LESBIA	12
LEPIDOPTERA	PIERIDAE	COLIAS	PHILODICE	12 16
LEPIDOPTERA	PIERIDAE	EUCHLOE	CARDAMINES	5
LEPIDOPTERA	PIERIDAE	GONEPTERYX	RHAMNI	5
LEPIDOPTERA	PIERIDAE	PIERIS	BRASSICAE	5 9 10
LEPIDOPTERA	PIERIDAE	PIERIS	BRASSICAE CHEIRANTHI	9
LEPIDOPTERA	PIERIDAE	PIERIS	NAPI	9
LEPIDOPTERA	PIERIDAE	PIERIS	RAPAE	5 9 12 16
LEPIDOPTERA	PIERIDAE	PIERIS	RAPAE CRUCIVORA	5 9 12
LEPIDOPTERA	PSYCHIDAE	CANEPHORA	ASIATICA	12
LEPIDOPTERA	PSYCHIDAE	CRYPTOTHELEA	JUNODI	12
LEPIDOPTERA	PSYCHIDAE	MAHASENA	CORBETTI	17
LEPIDOPTERA	PSYCHIDAE	MAHASENA	MINUSCULA	12
LEPIDOPTERA	PSYCHIDAE	OIKETICUS	KIRBYI	5
LEPIDOPTERA	PSYCHIDAE	ORIOPSYCHE	ANGUSTELLA	19
LEPIDOPTERA	PSYCHIDAE	THYRIDOPTERYX	EPHEMERAEFORMIS	12 17
LEPIDOPTERA	PYRALIDAE	ACROBASIS	ZELLERI	19
LEPIDOPTERA	PYRALIDAE	CADRA	CAUTELLA	5 9 12
LEPIDOPTERA	PYRALIDAE	CHILO	SUPPRESSALIS	9 10 12
LEPIDOPTERA	PYRALIDAE	CNAPHALOCROCIS	MEDINALIS	9
LEPIDOPTERA	PYRALIDAE	CRYPTOBLABES	LARICIANA	12
LEPIDOPTERA	PYRALIDAE	DICHOCROCIS	PUNCTIFERALIS	12
LEPIDOPTERA	PYRALIDAE	DIORYCTRIA	ABIETELLA	9
LEPIDOPTERA	PYRALIDAE	DIORYCTRIA	SPLENDIDELLA	17
LEPIDOPTERA	PYRALIDAE	EPHESTIA	ELUTELLA	12
LEPIDOPTERA	PYRALIDAE	NACOLEIA	DIEMENALIS	9

ORDER	FAMILY	GENUS	SPECIES	DISEASES			
LEPIDOPTERA	PYRALIDAE	NACOLEIA	OCTOSEMA	12			
LEPIDOPTERA	PYRALIDAE	OSTRINIA	NUBILALIS	12	17		
LEPIDOPTERA	PYRALIDAE	PARAMYELOIS	TRANSITELLA	12			
LEPIDOPTERA	PYRALIDAE	PLODIA	INTERPUNCTELLA	9	12		
LEPIDOPTERA	PYRALIDAE	WITLESIA	SABULOSELLA	10			
LEPIDOPTERA	PYRAUSTIDAE	BLEPHAROMASTIX	ACUTANGULALIS	16			
LEPIDOPTERA	PYRAUSTIDAE	OMIODES	BLACKBURNI	17			
LEPIDOPTERA	SATURNIIDAE	ACTIAS	LUNA	5			
LEPIDOPTERA	SATURNIIDAE	ACTIAS	SELENE	5	13		
LEPIDOPTERA	SATURNIIDAE	ANISOTA	SENATORIA	16			
LEPIDOPTERA	SATURNIIDAE	ANTHERAEA	EUCALYPTI	5	10	13	17
LEPIDOPTERA	SATURNIIDAE	ANTHERAEA	HELENA	13			
LEPIDOPTERA	SATURNIIDAE	ANTHERAEA	PAPHIA MYLITTA	5	12		
LEPIDOPTERA	SATURNIIDAE	ANTHERAEA	PERNYI	5	12	13	16
LEPIDOPTERA	SATURNIIDAE	ANTHERAEA	POLYPHEMUS	5	12	16	
LEPIDOPTERA	SATURNIIDAE	ANTHERAEA	YAMAMAI	12	16		
LEPIDOPTERA	SATURNIIDAE	AUTOMERIS	AURANTIACA	5			
LEPIDOPTERA	SATURNIIDAE	AUTOMERIS	MEMUSAE	5			
LEPIDOPTERA	SATURNIIDAE	COLORADIA	PANDORA	12	16		
LEPIDOPTERA	SATURNIIDAE	DICTYOPLOCA	JAPONICA	5	12		
LEPIDOPTERA	SATURNIIDAE	HEMILEUCA	MAIA	16			
LEPIDOPTERA	SATURNIIDAE	HEMILEUCA	OLIVIAE	16			
LEPIDOPTERA	SATURNIIDAE	HEMILEUCA	TRICOLOR	12	16		
LEPIDOPTERA	SATURNIIDAE	HYALOPHORA	CECROPIA	5	12	13	
LEPIDOPTERA	SATURNIIDAE	HYLESIA	NIGRICANS	12			
LEPIDOPTERA	SATURNIIDAE	NUDAURELIA	CYTHEREA CLARKI	13			
LEPIDOPTERA	SATURNIIDAE	NUDAURELIA	CYTHEREA CYTHEREA	13	16		
LEPIDOPTERA	SATURNIIDAE	PSEUDOBUNAEA	IRIUS	17			
LEPIDOPTERA	SATURNIIDAE	PSEUDOHAZIS	EGLANTERINA	16			
LEPIDOPTERA	SATURNIIDAE	SAMIA	CYNTHIA	5	12	13	16
LEPIDOPTERA	SATURNIIDAE	SAMIA	PRYERI	5	12		
LEPIDOPTERA	SATURNIIDAE	SAMIA	RICINI	5	12	13	16
LEPIDOPTERA	SATURNIIDAE	SATURNIA	PYRI	5	12	16	
LEPIDOPTERA	SATYRIDAE	DIRA	MEGERA	5			
LEPIDOPTERA	SATYRIDAE	PARARGE	AEGERIA	5			
LEPIDOPTERA	SPHINGIDAE	CELERIO	EUPHORBIAE	5	12	16	
LEPIDOPTERA	SPHINGIDAE	CELERIO	GALII	12	16		
LEPIDOPTERA	SPHINGIDAE	CELERIO	HARMUTHI	16			
LEPIDOPTERA	SPHINGIDAE	CELERIO	KINDERVATERI	16			
LEPIDOPTERA	SPHINGIDAE	CELERIO	PHILEUPHORBIAE	16			
LEPIDOPTERA	SPHINGIDAE	CELERIO	VESPERTILIO	16			
LEPIDOPTERA	SPHINGIDAE	DEILEPHILA	ELPENOR	5	12	16	
LEPIDOPTERA	SPHINGIDAE	DILINA	TILIAE	5			
LEPIDOPTERA	SPHINGIDAE	HERSE	CONVOLVULI	5			
LEPIDOPTERA	SPHINGIDAE	LAOTHOE	POPULI	5	12		
LEPIDOPTERA	SPHINGIDAE	MANDUCA	QUINQUEMACULATA	9			
LEPIDOPTERA	SPHINGIDAE	MANDUCA	SEXTA	9	12		
LEPIDOPTERA	SPHINGIDAE	PACHYSPHINX	MODESTA	5			
LEPIDOPTERA	SPHINGIDAE	PROSERPINUS	PROSERPINA	16			
LEPIDOPTERA	SPHINGIDAE	PSILOGRAMMA	MENEPHRON	9			
LEPIDOPTERA	SPHINGIDAE	SMERINTHUS	OCELLATA	5	12	16	
LEPIDOPTERA	SPHINGIDAE	SMERINTHUS	OCELLATA ATLANTICUS	12	16		
LEPIDOPTERA	SPHINGIDAE	SPHINX	LIGUSTRI	5	12		
LEPIDOPTERA	SPHINGIDAE	SPHINX	PINASTRI	5	12		
LEPIDOPTERA	SPHINGIDAE	THERETRA	JAPONICA	12			
LEPIDOPTERA	TENTHREDINIDAE	PIKONEMA	DIMMOCKII	12			
LEPIDOPTERA	THAUMETOPOEIDAE	THAUMETOPOEA	PITYOCAMPA	5	9	12	
LEPIDOPTERA	THAUMETOPOEIDAE	THAUMETOPOEA	PROCESSIONEA	5	12		
LEPIDOPTERA	THAUMETOPOEIDAE	THAUMETOPOEA	WILKINSONI	5	12		
LEPIDOPTERA	TINEIDAE	TINEA	COLUMBARIELLA	16			
LEPIDOPTERA	TINEIDAE	TINEA	PELLIONELLA	5	12		
LEPIDOPTERA	TINEIDAE	TINEOLA	BISSELLIELLA	5	12	16	
LEPIDOPTERA	TORTRICIDAE	ACLERIS	GLOVERANA	12			
LEPIDOPTERA	TORTRICIDAE	ACLERIS	VARIANA	12			
LEPIDOPTERA	TORTRICIDAE	ADOXOPHYES	FASCIATA	5	9		
LEPIDOPTERA	TORTRICIDAE	ADOXOPHYES	ORANA	9			
LEPIDOPTERA	TORTRICIDAE	ADOXOPHYES	RETICULANA	5	12		
LEPIDOPTERA	TORTRICIDAE	AMELIA	PALLORANA	9			
LEPIDOPTERA	TORTRICIDAE	ARCHIPPUS	ISSHIKII	19			
LEPIDOPTERA	TORTRICIDAE	ARCHIPS	ARGYROSPILUS	9			
LEPIDOPTERA	TORTRICIDAE	ARCHIPS	CERASIVORANUS	12			
LEPIDOPTERA	TORTRICIDAE	ARCHIPS	LONGICELLANA	9			
LEPIDOPTERA	TORTRICIDAE	ARGYROTAENIA	VELUTINANA	9			
LEPIDOPTERA	TORTRICIDAE	CACOECIA	MURINANA	9	12	16	
LEPIDOPTERA	TORTRICIDAE	CHORISTONEURA	BIENNIS	19			
LEPIDOPTERA	TORTRICIDAE	CHORISTONEURA	CONFLICTANA	19			

ORDER	FAMILY	GENUS	SPECIES	DISEASES
LEPIDOPTERA	TORTRICIDAE	CHORISTONEURA	DIVERSANA	19
LEPIDOPTERA	TORTRICIDAE	CHORISTONEURA	FUMIFERANA	5 9 12 19
LEPIDOPTERA	TORTRICIDAE	CHORISTONEURA	OCCIDENTALIS	12
LEPIDOPTERA	TORTRICIDAE	CHORISTONEURA	PINUS	12
LEPIDOPTERA	TORTRICIDAE	CHORISTONEURA	ROSACEANA	12
LEPIDOPTERA	TORTRICIDAE	EPIPHYAS	POSTVITTANA	12
LEPIDOPTERA	TORTRICIDAE	HOMONA	COFFEARIA	16
LEPIDOPTERA	TORTRICIDAE	HOMONA	MAGNANIMA	5 12
LEPIDOPTERA	TORTRICIDAE	LATHRONYMPHA	PHASEOLI	9
LEPIDOPTERA	TORTRICIDAE	MEROPHYAS	DIVULSANA	12
LEPIDOPTERA	TORTRICIDAE	PANDEMIS	LAMPROSANA	12
LEPIDOPTERA	TORTRICIDAE	PTYCHOLOMOIDES	AERIFERANA	12
LEPIDOPTERA	TORTRICIDAE	SPARGANOTHIS	PETTITANA	12
LEPIDOPTERA	TORTRICIDAE	TORTRIX	LOEFLINGIANA	12 16
LEPIDOPTERA	TORTRICIDAE	TORTRIX	VIRIDANA	5 12 16
LEPIDOPTERA	YPONOMEUTIDAE	ARGYRESTHIA	CUPRESSELLA	9
LEPIDOPTERA	YPONOMEUTIDAE	PLUTELLA	XYLOSTELLA	9 12
LEPIDOPTERA	YPONOMEUTIDAE	PRAYS	OLEELLUS	16
LEPIDOPTERA	YPONOMEUTIDAE	YPONOMEUTA	MALINELLUS	12
LEPIDOPTERA	ZYGAENIDAE	AGLAOPE	INFAUSTA	5
LEPIDOPTERA	ZYGAENIDAE	HARRISINA	BRILLIANS	9
NEUROPTERA	CHRYSOPIDAE	CHRYSOPA	PERLA	5 12
NEUROPTERA	HEMEROBIIDAE	HEMEROBIUS	STIGMA	5 12
NEUROPTERA	MYRMELEONTIDAE	HAGENOMYIA	MICANS	16
ORTHOPTERA	ACRIDIDAE	AMPHITORNUS	COLORADUS	4
ORTHOPTERA	ACRIDIDAE	AULOCARA	ELLIOTTI	4
ORTHOPTERA	ACRIDIDAE	LOCUSTA	MIGRATORIA	17
ORTHOPTERA	ACRIDIDAE	MELANOPLUS	BIVITTATUS	4 12
ORTHOPTERA	ACRIDIDAE	MELANOPLUS	DAWSONI	4
ORTHOPTERA	ACRIDIDAE	MELANOPLUS	DIFFERENTIALIS	4 12
ORTHOPTERA	ACRIDIDAE	MELANOPLUS	FEMURRUBRUM	4
ORTHOPTERA	ACRIDIDAE	MELANOPLUS	SANGUINIPES	4 12 19
ORTHOPTERA	ACRIDIDAE	SCHISTOCERCA	AMERICANA	4 12
ORTHOPTERA	ACRIDIDAE	SCHISTOCERCA	VAGA	4
ORTHOPTERA	GRYLLIDAE	ACHETA	DOMESTICUS	17
ORTHOPTERA	GRYLLIDAE	GRYLLUS	BIMACULATUS	15
ORTHOPTERA	GRYLLIDAE	TELEOGRYLLUS	COMMODUS	13
ORTHOPTERA	GRYLLIDAE	TELEOGRYLLUS	OCEANICUS	13
TRICHOPTERA	LIMNEPHILIDAE	NEOPHYLAX	SP.	12

APPENDIX 2

Alphabetical List of Hosts by Specific Names

ORDER	FAMILY	GENUS	SPECIES	DISEASES				
LEPIDOPTERA	PYRALIDAE	DIORYCTRIA	ABIETELLA	9				
HYMENOPTERA	PAMPHILIIDAE	CEPHALCIA	ABIETIS	16				
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	ABIETIS	12	16			
LEPIDOPTERA	NOCTUIDAE	ACRONICTA	ACERIS	12				
LEPIDOPTERA	ARCTIIDAE	ESTIGMENE	ACREA	5	9	12	16	19
LEPIDOPTERA	PYRAUSTIDAE	BLEPHAROMASTIX	ACUTANGULALIS	16				
ISOPTERA	TERMOPSIDAE	POROTERMES	ADAMSONI	17				
LEPIDOPTERA	SATYRIDAE	PARARGE	AEGERIA	5				
DIPTERA	CULICIDAE	AEDES	AEGYPTI	5	6	10	12	17
LEPIDOPTERA	TORTRICIDAE	PTYCHOLOMOIDES	AERIFERANA	12				
DIPTERA	DROSOPHILIDAE	DROSOPHILA	AFFINIS	3				
HYMENOPTERA	BOMBIDAE	BOMBUS	AGRORUM	1				
LEPIDOPTERA	NOCTUIDAE	HELIOPHOBUS	ALBICOLON	5				
DIPTERA	CULICIDAE	ANOPHELES	ALBIMANUS	10	19			
LEPIDOPTERA	ARCTIIDAE	AMSACTA	ALBISTRIGA	12				
LEPIDOPTERA	HEPIALIDAE	ONCOPERA	ALBOGUTTATA	19				
COLEOPTERA	SCARABAEIDAE	DERMOLEPIDA	ALBOHIRTUM	19				
DIPTERA	CULICIDAE	AEDES	ALBOPICTUS	10	11	13		
LEPIDOPTERA	LIMACODIDAE	NIPHADOLEPIS	ALIANTA	17				
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	ALPICOLA	12				
HYMENOPTERA	PAMPHILIIDAE	CEPHALCIA	ALPINA	16				
LEPIDOPTERA	NOTODONTIDAE	STAUROPUS	ALTERNUS	16				
LEPIDOPTERA	ARCTIIDAE	DIONYCHOPUS	AMASIS	9	13			
LEPIDOPTERA	PHALONIIDAE	CLYSIANA	AMBIGUELLA	16				
ORTHOPTERA	ACRIDIDAE	SCHISTOCERCA	AMERICANA	4	12			
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	AMERICANUM	5	12	16		
LEPIDOPTERA	ANTHELIDAE	PTEROLOCERA	AMPLICORNIS	12				
DIPTERA	DROSOPHILIDAE	DROSOPHILA	ANANASSAE	13				
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	ANARTOIDES	12				
LEPIDOPTERA	NOTODONTIDAE	PYGAERA	ANASTOMOSIS	5	9	12	17	
LEPIDOPTERA	NOTODONTIDAE	PYGAERA	ANASTOMOSIS ORIENTALIS	5	12			
LEPIDOPTERA	NOTODONTIDAE	PYGAERA	ANASTOMOSIS TRISTIS	5	12			
LEPIDOPTERA	NOCTUIDAE	PRODENIA	ANDROGEA	9				
DIPTERA	SCIARIDAE	RHYNCHOSCIARA	ANGELAE	12	17			
LEPIDOPTERA	PSYCHIDAE	ORIOPSYCHE	ANGUSTELLA	19				
DIPTERA	CULICIDAE	AEDES	ANNULIPES	10				
LEPIDOPTERA	NYMPHALIDAE	NYMPHALIS	ANTIOPA	5	9	12	16	
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	ANTIQUA	5	12	16		
LEPIDOPTERA	OLETHREUTIDAE	EXARTEMA	APPENDICEUM	9				
DIPTERA	CHAOBORIDAE	CORETHRELLA	APPENDICULATA	10				
COLEOPTERA	SCARABAEIDAE	HETERONYCHUS	ARATOR	13				
LEPIDOPTERA	ARCTIIDAE	HALISIDOTA	ARGENTATA	12				
LEPIDOPTERA	NOCTUIDAE	PLUSIA	ARGENTIFERA	12				
LEPIDOPTERA	NOCTUIDAE	ALABAMA	ARGILLACEA	12	16			
LEPIDOPTERA	TORTRICIDAE	ARCHIPS	ARGYROSPILUS	9				
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	ARMIGERA	5	9	12		
LEPIDOPTERA	PSYCHIDAE	CANEPHORA	ASIATICA	12				
LEPIDOPTERA	NOCTUIDAE	HELICTHIS	ASSULTA	12				
LEPIDOPTERA	NYMPHALIDAE	VANESSA	ATALANTA	12	16			
DIPTERA	CHIRONOMIDAE	CHIRONOMUS	ATTENUATUS	19				
LEPIDOPTERA	SATURNIIDAE	AUTOMERIS	AURANTIACA	5				
LEPIDOPTERA	LYMANTRIIDAE	IVELA	AURIPES	12				
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	AUSTRALIS	12				
COLEOPTERA	SCARABAEIDAE	SCAPANES	AUSTRALIS GROSSEPUNCTATUS	11				
LEPIDOPTERA	GEOMETRIDAE	OPORINIA	AUTUMNATA	5	12			
LEPIDOPTERA	NOCTUIDAE	EUXOA	AUXILIARIS	9	12	13	16	19
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	BADIA	12				
LEPIDOPTERA	NOCTUIDAE	PLUSIA	BALLUCA	12				
LEPIDOPTERA	LYMANTRIIDAE	DASYCHIRA	BASIFLAVA	12				
LEPIDOPTERA	NOCTUIDAE	ARGYROGRAMMA	BASIGERA	12				
LEPIDOPTERA	NOCTUIDAE	HADENA	BASILINEA	9				
COLEOPTERA	SCARABAEIDAE	OTHNONIUS	BATESI	19				
LEPIDOPTERA	GEOMETRIDAE	PERO	BEHRENSARIUS	12				
LEPIDOPTERA	GEOMETRIDAE	BISTON	BETULARIA	5				
LEPIDOPTERA	TORTRICIDAE	CHORISTONEURA	BIENNIS	19				
DIPTERA	DROSOPHILIDAE	DROSOPHILA	BIFASCIATA	17				
LEPIDOPTERA	NOCTUIDAE	AUTOGRAPHA	BILOBA	12	16			
LEPIDOPTERA	NOCTUIDAE	AUTOGRAPHA	BIMACULATA	12				
ORTHOPTERA	GRYLLIDAE	GRYLLUS	BIMACULATUS	15				
LEPIDOPTERA	TINEIDAE	TINEOLA	BISSELLIELLA	5	12	16		
LEPIDOPTERA	GEOMETRIDAE	BOARMIA	BISTORTATA	12				
ORTHOPTERA	ACRIDIDAE	MELANOPLUS	BIVITTATUS	4	12			
LEPIDOPTERA	PYRAUSTIDAE	CHIODES	BLACKBURNI	17				
COLEOPTERA	SCARABAEIDAE	ORYCTES	BOAS	20				
COLEOPTERA	SCARABAEIDAE	DEMODENA	BORANENSIS	19				
DIPTERA	CHAOBORIDAE	CORETHRELLA	BRAKELEYI	10				

ORDER	FAMILY	GENUS	SPECIES	DISEASES				
LEPIDOPTERA	NOCTUIDAE	MAMESTRA	BRASSICAE	5	6	12		
LEPIDOPTERA	PIERIDAE	PIERIS	BRASSICAE	5	9	10		
LEPIDOPTERA	PIERIDAE	PIERIS	BRASSICAE CHEIRANTHI	9				
LEPIDOPTERA	ZYGAENIDAE	HARRISINA	BRILLIANS	9				
LEPIDOPTERA	GEOMETRIDAE	OPEROPHTERA	BRUCEATA	5	12			
LEPIDOPTERA	GEOMETRIDAE	OPEROPHTERA	BRUMATA	5	12	16	17	19
LEPIDOPTERA	NOTODONTIDAE	PHALERA	BUCEPHALA	5	12			
LEPIDOPTERA	NYMPHALIDAE	POLYGONIA	C-ALBUM	5	12			
LEPIDOPTERA	NOCTUIDAE	AMATHES	C-NIGRUM	5	12			
LEPIDOPTERA	GEOMETRIDAE	SABULODES	CABERATA	9	16			
LEPIDOPTERA	PHYCITIDAE	CACTOBLASTIS	CACTORUM	5				
LEPIDOPTERA	ARCTIIDAE	ARCTIA	CAJA	5	12	16		
LEPIDOPTERA	NOCTUIDAE	AUTOGRAPHA	CALIFORNICA	5	9	12		
LEPIDOPTERA	DIOPTIDAE	PHRYGANIDIA	CALIFORNICA	12				
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	CALIFORNICUM	12				
LEPIDOPTERA	LIMACODIDAE	THOSEA	CANA	17				
LEPIDOPTERA	GEOMETRIDAE	NEPYTIA	CANOSARIA	16				
DIPTERA	CULICIDAE	AEDES	CANTANS	10				
DIPTERA	TEPHRITIDAE	CERATITIS	CAPITATA	3				
LEPIDOPTERA	NOTODONTIDAE	LOPHOPTERYX	CAPUCINA	5				
LEPIDOPTERA	PIERIDAE	EUCHLOE	CARDAMINES	5				
LEPIDOPTERA	NYMPHALIDAE	VANESSA	CARDUI	5	12	16		
LEPIDOPTERA	ARCTIIDAE	HALISIDOTA	CARYAE	12				
LEPIDOPTERA	LIMACODIDAE	SPATULIFIMBRIA	CASTANEICEPS	17				
LEPIDOPTERA	PYRALIDAE	CADRA	CAUTELLA	5	9	12		
DIPTERA	CERATOPOGONIDAE	CULICOIDES	CAVATICUS	13				
LEPIDOPTERA	SATURNIIDAE	HYALOPHORA	CECROPIA	5	12	13		
LEPIDOPTERA	NYMPHALIDAE	ASTEROCAMPA	CELTIS	12				
LEPIDOPTERA	GALLERIIDAE	CORCYRA	CEPHALONICA	12				
LEPIDOPTERA	TORTRICIDAE	ARCHIPS	CERASIVORANUS	12				
LEPIDOPTERA	LIMACODIDAE	THOSEA	CERVINA	17				
LEPIDOPTERA	HEPIALIDAE	WISEANA	CERVINATA	9	10	12	19	
LEPIDOPTERA	NOCTUIDAE	CHRYSODEIXIS	CHALCITES	12				
LEPIDOPTERA	NOCTUIDAE	MOMA	CHAMPA	12				
LEPIDOPTERA	LYMANTRIIDAE	EUPROCTIS	CHRYSORRHOEA	5	12	16		
LEPIDOPTERA	PIERIDAE	COLIAS	CHRYSOTHEME CHRYSOTHEME	16				
HEMIPTERA	CICADELLIDAE	NEPHOTETTIX	CINCTICEPS	10				
DIPTERA	CULICIDAE	AEDES	CINEREUS	6				
ACARINA	TETRANYCHIDAE	TETRANYCHUS	CINNABARINUS	13	17			
ACARINA	TETRANYCHIDAE	PANONYCHUS	CITRI	13	17			
LEPIDOPTERA	NOCTUIDAE	SPAELOTIS	CLANDESTINA	16				
LEPIDOPTERA	HESPERIIDAE	EPARGYREUS	CLARUS	12				
LEPIDOPTERA	NYMPHALIDAE	JUNONIA	COENIA	6	9	12	16	
LEPIDOPTERA	NOCTUIDAE	ARCTE	COERULEA	5				
LEPIDOPTERA	TORTRICIDAE	HOMONA	COFFEARIA	16				
ORTHOPTERA	ACRIDIDAE	AMPHITORNUS	COLORADUS	4				
LEPIDOPTERA	TINEIDAE	TINEA	COLUMBARIELLA	16				
ORTHOPTERA	GRYLLIDAE	TELEOGRYLLUS	COMMODUS	13				
LEPIDOPTERA	NOTODONTIDAE	SCHIZURA	CONCINNA	5				
LEPIDOPTERA	NOCTUIDAE	MAMESTRA	CONFIGURATA	12				
DIPTERA	CULICIDAE	PSOROPHORA	CONFINNIS	10	12	17		
LEPIDOPTERA	TORTRICIDAE	CHORISTONEURA	CONFLICTANA	19				
LEPIDOPTERA	LYMANTRIIDAE	DASYCHIRA	CONFUSA	12				
LEPIDOPTERA	NOCTUIDAE	CATOCALA	CONJUNCTA	12				
LEPIDOPTERA	HETEROGENEIDAE	PARASA	CONSOCIA	12				
LEPIDOPTERA	LIMACODIDAE	NAROSA	CONSPERSA	17				
LEPIDOPTERA	NOCTUIDAE	XYLOMYGES	CONSPICILLARIS	5				
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	CONSTRICTUM	12				
LEPIDOPTERA	AEGERIIDAE	BEMBECIA	CONTRACTA	5	12			
LEPIDOPTERA	NOCTUIDAE	PSEUDALETIA	CONVECTA	9	12			
LEPIDOPTERA	SPHINGIDAE	HERSE	CONVOLVULI	5				
LEPIDOPTERA	PSYCHIDAE	MAHASENA	CORBETTI	17				
LEPIDOPTERA	NOCTUIDAE	OPHIUSA	CORONATA	17				
LEPIDOPTERA	PIERIDAE	APORIA	CRATAEGI	5	12	16		
LEPIDOPTERA	GEOMETRIDAE	ECTROPIS	CREPUSCULARIA	16				
LEPIDOPTERA	NOCTUIDAE	SESAMIA	CRETICA	9				
HYMENOPTERA	BRACONIDAE	MICROPLITIS	CROCEIPES	17				
DIPTERA	CULICIDAE	ANOPHELES	CRUCIANS	12				
LEPIDOPTERA	ARCTIIDAE	HYPHANTRIA	CUNEA	5	9	12	16	
COLEOPTERA	SCARABAEIDAE	ANOMALA	CUPREA	19				
LEPIDOPTERA	YPONOMEUTIDAE	ARGYRESTHIA	CUPRESSELLA	9				
LEPIDOPTERA	SATURNIIDAE	SAMIA	CYNTHIA	5	12	13	16	
LEPIDOPTERA	SATURNIIDAE	NUDAURELIA	CYTHEREA CLARKI	13				
LEPIDOPTERA	SATURNIIDAE	NUDAURELIA	CYTHEREA CYTHEREA	13	16			
ORTHOPTERA	ACRIDIDAE	MELANOPLUS	DAWSONI	4				
LEPIDOPTERA	GEOMETRIDAE	HIBERNIA	DEFOLIARIA	12				

ORDER	FAMILY	GENUS	SPECIES	DISEASES					
HYMENOPTERA	TENTHREDINIDAE	ANOPLONYX	DESTRUCTOR	5					
DIPTERA	CULICIDAE	AEDES	DETRITUS	10					
LEPIDOPTERA	NYMPHALIDAE	ARGYNNIS	DIA	5					
LEPIDOPTERA	PYRALIDAE	NACOLEIA	DIEMENALIS	9					
ORTHOPTERA	ACRIDIDAE	MELANOPLUS	DIFFERENTIALIS	4	12				
LEPIDOPTERA	TENTHREDINIDAE	PIKONEMA	DIMMOCKII	12					
LEPIDOPTERA	OLETHREUTIDAE	ZEIRAPHERA	DINIANA	9	12	16	19		
LEPIDOPTERA	LYMANTRIIDAE	PORTHETRIA	DISPAR	5	6	10	12	16	19
LEPIDOPTERA	LYMANTRIIDAE	PORTHETRIA	DISPAR JAPONICA	5	12				
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	DISSTRIA	5	12	16			
LEPIDOPTERA	TORTRICIDAE	CHORISTONEURA	DIVERSANA	19					
LEPIDOPTERA	GEOMETRIDAE	CARIPETA	DIVISATA	12					
LEPIDOPTERA	TORTRICIDAE	MEROPHYAS	DIVULSANA	12					
DIPTERA	MUSCIDAE	MUSCA	DOMESTICA	3					
ORTHOPTERA	GRYLLIDAE	ACHETA	DOMESTICUS	17					
LEPIDOPTERA	ARCTIIDAE	PANAXIA	DOMINULA	5	12				
DIPTERA	CULICIDAE	AEDES	DORSALIS	6	10				
LEPIDOPTERA	OLETHREUTIDAE	RHYACIONIA	DUPLANA	9	12				
LEPIDOPTERA	SATURNIIDAE	PSEUDOHAZIS	EGLANTERINA	16					
LEPIDOPTERA	PIERIDAE	COLIAS	ELECTO	12	16				
LEPIDOPTERA	NOCTUIDAE	ANOMOGYNA	ELIMATA	12					
LEPIDOPTERA	GEOMETRIDAE	CROCALLIS	ELINGUARIA	5					
ORTHOPTERA	AGRIDIDAE	AULOCARA	ELLIOTTI	4					
LEPIDOPTERA	SPHINGIDAE	DEILEPHILA	ELPENOR	5	12	16			
LEPIDOPTERA	PYRALIDAE	EPHESTIA	ELUTELLA	12					
LEPIDOPTERA	NOCTUIDAE	ORAESIA	EMARGINATA	5	12				
LEPIDOPTERA	NOCTUIDAE	NEPHELODES	EMMEDONIA	9	12	16			
LEPIDOPTERA	PSYCHIDAE	THYRIDOPTERYX	EPHEMERAEFORMIS	12	17				
HYMENOPTERA	TENTHREDINIDAE	PRISTIPHORA	ERICHSONII	12	16				
LEPIDOPTERA	NOCTUIDAE	CATABENA	ESULA	12	16				
LEPIDOPTERA	SATURNIIDAE	ANTHERAEA	EUCALYPTI	5	10	13	17		
LEPIDOPTERA	SPHINGIDAE	CELERIO	EUPHORBIAE	5	12	16			
LEPIDOPTERA	PIERIDAE	COLIAS	EURYTHEME	5	12				
LEPIDOPTERA	NOCTUIDAE	PERSECTANIA	EWINGII	9					
LEPIDOPTERA	NOCTUIDAE	ORAESIA	EXCAVATA	5					
LEPIDOPTERA	NOCTUIDAE	AGROTIS	EXCLAMATIONIS	12					
LEPIDOPTERA	NOCTUIDAE	SPODOPTERA	EXEMPTA	12	17				
LEPIDOPTERA	NOCTUIDAE	SPODOPTERA	EXIGUA	5	9	12			
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	EXITANS	12					
ISOPTERA	TERMITIDAE	NASUTITERMES	EXITIOSUS	17					
LEPIDOPTERA	GEOMETRIDAE	OPEROPHTERA	FAGATA	5					
LEPIDOPTERA	OECOPHORIDAE	DIURNEA	FAGELLA	16					
LEPIDOPTERA	NOCTUIDAE	ANAGRAPHA	FALCIFERA	12					
LEPIDOPTERA	TORTRICIDAE	ADOXOPHYES	FASCIATA	5	9				
LEPIDOPTERA	PAMPHILIIDAE	CEPHALCIA	FASCIPENNIS	9					
ORTHOPTERA	ACRIDIDAE	MELANOPLUS	FEMURRUBRUM	4					
LEPIDOPTERA	NOCTUIDAE	ACTEBIA	FENNICA	12					
DIPTERA	CULICIDAE	PSOROPHORA	FEROX	5	10	12			
LEPIDOPTERA	NOCTUIDAE	LAMPRA	FIMBRIATA	5					
LEPIDOPTERA	GEOMETRIDAE	LAMBDINA	FISCELLARIA	12	16				
LEPIDOPTERA	GEOMETRIDAE	LAMBDINA	FISCELLARIA LUGUBROSA	12	16				
LEPIDOPTERA	GEOMETRIDAE	LAMBDINA	FISCELLARIA SOMNIARIA	12	16				
LEPIDOPTERA	NOCTUIDAE	PANOLIS	FLAMMEA	12	16				
LEPIDOPTERA	LYMANTRIIDAE	EUPROCTIS	FLAVA	12					
LEPIDOPTERA	NOCTUIDAE	ANOMIS	FLAVA	12					
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	FRAGILE	12					
DIPTERA	CULICIDAE	ANOPHELES	FREEBORNI	12					
DIPTERA	COELOPIDAE	COELOPA	FRIGIDA	17					
LEPIDOPTERA	NOCTUIDAE	SPODOPTERA	FRUGIPERDA	9	11	12	16		
LEPIDOPTERA	ARCTIIDAE	PHRAGMATOBIA	FULIGINOSA	5	9	16			
DIPTERA	CULICIDAE	AEDES	FULVUS PALLENS	10					
LEPIDOPTERA	LYMANTRIIDAE	LYMANTRIA	FUMIDA FUMIDA	5	12				
LEPIDOPTERA	TORTRICIDAE	CHORISTONEURA	FUMIFERANA	5	9	12	19		
LEPIDOPTERA	NOCTUIDAE	ORYOBOTA	FURVA	9	12				
LEPIDOPTERA	LIMACODIDAE	SIBINE	FUSCA	6					
DIPTERA	MUSCIDAE	GLOSSINA	FUSCIPES FUSCIPES	17					
LEPIDOPTERA	SPHINGIDAE	CELERIO	GALII	12	16				
LEPIDOPTERA	NOCTUIDAE	AUTOGRAPHA	GAMMA	5	12				
LEPIDOPTERA	NOCTUIDAE	ANTICARSIA	GEMMATILIS	16					
HYMENOPTERA	TENTHREDINIDAE	PRISTIPHORA	GENICULATA	12					
LEPIDOPTERA	NOTODONTIDAE	NADATA	GIBBOSA	12					
HYMENOPTERA	SIRICIDAE	UROCERUS	GIGAS GIGAS	5					
LEPIDOPTERA	NOCTUIDAE	AMATHES	GLAREOSA	5					
LEPIDOPTERA	ARCTIIDAE	ARDICES	GLATIGNYI	12					
LEPIDOPTERA	TORTRICIDAE	ACLERIS	GLOVERANA	12					
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	GONOSTIGMA	12					

ORDER	FAMILY	GENUS	SPECIES	DISEASES
LEPIDOPTERA	NOCTUIDAE	BELLURA	GORTYNOIDES	12
LEPIDOPTERA	GELECHIIDAE	PECTINOPHORA	GOSSYPIELLA	5 12
LEPIDOPTERA	NOCTUIDAE	CERAPTERYX	GRAMINIS	12 16
COLEOPTERA	CURCULIONIDAE	ANTHONOMUS	GRANDIS	10 12
LEPIDOPTERA	GEOMETRIDAE	ABRAXAS	GROSSULARIATA	5 12
LEPIDOPTERA	NOTODONTIDAE	HETEROCAMPA	GUTTIVITA	16
LEPIDOPTERA	SPHINGIDAE	CELERIO	HARMUTHI	16
LEPIDOPTERA	GEOMETRIDAE	EULYPE	HASTATA	9
LEPIDOPTERA	SATURNIIDAE	ANTHERAEA	HELENA	13
LEPIDOPTERA	NOCTUIDAE	ANCHOSCELI	HELVOLA	5
HYMENOPTERA	DIPRIONIDAE	DIPRION	HERCYNIAE	12
LEPIDOPTERA	NOTODONTIDAE	CERURA	HERMELINA	12 16
COLEOPTERA	SCARABAEIDAE	MELOLONTHA	HIPPOCASTANI	20
LEPIDOPTERA	GEOMETRIDAE	BISTON	HIRTARIA	12
LEPIDOPTERA	GEOMETRIDAE	BISTON	HISPIDARIA	12
DIPTERA	SCIARIDAE	RHYNCHOSCIARA	HOLLAENDERI	12
DIPTERA	CHIRONOMIDAE	GOELDICHIRONOMUS	HOLOPRASINUS	5 17 19
DIPTERA	CULICIDAE	PSOROPHORA	HORRIDA	10
COLEOPTERA	SCARABAEIDAE	PHYLLOPERTHA	HORTICOLA	19
HYMENOPTERA	BOMBIDAE	BOMBUS	HORTORUM	1
LEPIDOPTERA	GEOMETRIDAE	ANTHELIA	HYPERBOREA	12
LEPIDOPTERA	ARCTIIDAE	ECPANTHERIA	ICASIA	9 12
LEPIDOPTERA	GEOMETRIDAE	MELANOLOPHIA	IMITATA	12
DIPTERA	DROSOPHILIDAE	DROSOPHILA	IMMIGRANS	3 13
LEPIDOPTERA	LYMANTRIIDAE	LYMANTRIA	INCERTA	12
LEPIDOPTERA	NOCTUIDAE	PSEUDOPLUSIA	INCLUDENS	12
LEPIDOPTERA	ZYGAENIDAE	AGLAOPE	INFAUSTA	5
DIPTERA	CULICIDAE	CULISETA	INORNATA	10
LEPIDOPTERA	PYRALIDAE	PLODIA	INTERPUNCTELLA	9 12
LEPIDOPTERA	NYMPHALIDAE	NYMPHALIS	IO	5 12 16
LEPIDOPTERA	NOCTUIDAE	AGROTIS	IPSILON	12
LEPIDOPTERA	SATURNIIDAE	PSEUDOBUNAEA	IRIUS	17
HYMENOPTERA	TENTHREDINIDAE	TRICHIOCAMPUS	IRREGULARIS	12
LEPIDOPTERA	TORTRICIDAE	ARCHIPPUS	ISSHIKII	19
HYMENOPTERA	PAMPHILIIDAE	CEPHALCIA	ISSIKI	12
LEPIDOPTERA	ARCTIIDAE	HYPOCRITA	JACOBAEAE	5 12
LEPIDOPTERA	NOCTUIDAE	ACHAEA	JANATA	9
LEPIDOPTERA	SATURNIIDAE	DICTYOPLOCA	JAPONICA	5 12
LEPIDOPTERA	PAPILIONIDAE	LUEHDORFIA	JAPONICA	12
LEPIDOPTERA	SPHINGIDAE	THERETRA	JAPONICA	12
LEPIDOPTERA	NYMPHALIDAE	CHARAXES	JASIUS	16
LEPIDOPTERA	PSYCHIDAE	CRYPTOTHELEA	JUNODI	12
HYMENOPTERA	SIRICIDAE	SIREX	JUVENCUS	5
LEPIDOPTERA	SPHINGIDAE	CELERIO	KINDERVATERI	16
LEPIDOPTERA	PSYCHIDAE	OIKETYCUS	KIRBYI	5
LEPIDOPTERA	PHYCITIDAE	ANAGASTA	KUHNIELLA	12
LEPIDOPTERA	DREPANIDAE	DREPANA	LACERTINARIA	5
ISOPTERA	RHINOTERMITIDAE	COPTOTERMES	LACTEUS	17
LEPIDOPTERA	TORTRICIDAE	PANDEMIS	LAMPROSANA	12
LEPIDOPTERA	LASIOCAMPIDAE	ERIOGASTER	LANESTRIS	5
COLEOPTERA	DERMESTIDAE	DERMESTES	LARDARIUS	12 16
LEPIDOPTERA	COLEOPHORIDAE	COLEOPHORA	LARICELLA	12
LEPIDOPTERA	PYRALIDAE	CRYPTOBLABES	LARICIANA	12
LEPIDOPTERA	NYMPHALIDAE	ARGYNNIS	LATHONIA	16
LEPIDOPTERA	NOCTUIDAE	LITHOPHANE	LEAUTIERI	5
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	LECONTEI	12 16
LEPIDOPTERA	LIMACODIDAE	PARASA	LEPIDA	17
LEPIDOPTERA	PIERIDAE	COLIAS	LESBIA	12
LEPIDOPTERA	NOCTUIDAE	AEDIA	LEUCOMELAS	12
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	LEUCOSTIGMA	5 12 16
LEPIDOPTERA	OLETHREUTIDAE	ARGYROPLOCE	LEUCOTRETA	5
LEPIDOPTERA	NOCTUIDAE	SCOLIOPTERYX	LIBATRIX	5 12
LEPIDOPTERA	SPHINGIDAE	SPHINX	LIGUSTRI	5 12
LEPIDOPTERA	HESPERIIDAE	THYMELICUS	LINEOLA	12
COLEOPTERA	CERAMBYCIDAE	BATOCERA	LINEOLATA	12
LEPIDOPTERA	NOCTUIDAE	PRODENIA	LITOSIA	12
LEPIDOPTERA	NOCTUIDAE	SPODOPTERA	LITTORALIS	5 9 12 16
LEPIDOPTERA	GEOMETRIDAE	SEMIOTHISA	LITURATA	5
DIPTERA	TIPULIDAE	TIPULA	LIVIDA	10
LEPIDOPTERA	TORTRICIDAE	TORTRIX	LOEFLINGIANA	12 16
LEPIDOPTERA	TORTRICIDAE	ARCHIPS	LONGICELLANA	9
LEPIDOPTERA	GEOMETRIDAE	EUPITHECIA	LONGIPALPATA	12
LEPIDOPTERA	ARCTIIDAE	SPILOSOMA	LUBRICIPEDA	5 12
LEPIDOPTERA	NOCTUIDAE	EUPLEXIA	LUCIPARA	9
HYMENOPTERA	BOMBIDAE	BOMBUS	LUCORUM	1
HYMENOPTERA	FORMICIDAE	FORMICA	LUGUBRIS	17

ORDER	FAMILY	GENUS	SPECIES	DISEASES
LEPIDOPTERA	SATURNIIDAE	ACTIAS	LUNA	5
LEPIDOPTERA	GEOMETRIDAE	SELENIA	LUNARIA	5
LEPIDOPTERA	NOCTUIDAE	CALOPHASIA	LUNULA	5 12
LEPIDOPTERA	HEPIALIDAE	HEPIALUS	LUPULINUS	5
DIPTERA	CHIRONOMIDAE	CHIRONOMUS	LURIDUS	19
LEPIDOPTERA	ARCTIIDAE	SPILOSOMA	LUTEA	5
LEPIDOPTERA	GEOMETRIDAE	OPISTHOGRAPTIS	LUTEOLATA	12
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	LUTESCENS	12
LEPIDOPTERA	NOCTUIDAE	AGROCHOLA	LYCHNIDIS	5
LEPIDOPTERA	PAPILIONIDAE	PAPILIO	MACHAON	5
LEPIDOPTERA	TORTRICIDAE	HOMONA	MAGNANIMA	5 12
LEPIDOPTERA	SATURNIIDAE	HEMILEUCA	MAIA	16
HEMIPTERA	APHIDIDAE	RHOPALOSIPHUM	MAIDIS	17
LEPIDOPTERA	YPONOMEUTIDAE	YPONOMEUTA	MALINELLUS	12
LEPIDOPTERA	BOMBYCIDAE	THEOPHILA	MANDARINA	5 12
DIPTERA	BIBIONIDAE	BIBIO	MARCI	10
LEPIDOPTERA	GEOMETRIDAE	BISTON	MARGINATA	16
LEPIDOPTERA	LYMANTRIIDAE	LYMANTRIA	MATHURA AURORA	5 12
LEPIDOPTERA	NOCTUIDAE	MANIA	MAURA	5
LEPIDOPTERA	NOCTUIDAE	SPODOPTERA	MAURITIA	12 16
LEPIDOPTERA	NOCTUIDAE	SPODOPTERA	MAURITIA ACRONYCTOIDES	12
LEPIDOPTERA	PYRALIDAE	CNAPHALOCROCIS	MEDINALIS	9
LEPIDOPTERA	SATYRIDAE	OIRA	MEGERA	5
HYMENOPTERA	HALICTIDAE	NOMIA	MELANDERI	17
DIPTERA	DROSOPHILIDAE	DROSOPHILA	MELANOGASTER	3 13 17
DIPTERA	CULICIDAE	CULISETA	MELANURA	5 10
HYMENOPTERA	APIDAE	APIS	MELLIFERA	1 2 6 10 13 15 17 18 21
LEPIDOPTERA	GALLERIIDAE	GALLERIA	MELLONELLA	5 6 10 12 13 16 19
COLEOPTERA	SCARABAEIDAE	MELOLONTHA	MELOLONTHA	6 19 20
LEPIDOPTERA	SATURNIIDAE	AUTOMERIS	MEMUSAE	5
LEPIDOPTERA	ARCTIIDAE	CYCNIA	MENDICA	5 12
LEPIDOPTERA	LYMANTRIIDAE	DASYCHIRA	MENDOSA	12
LEPIDOPTERA	SPHINGIDAE	PSILOGRAMMA	MENEPHRON	9
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	MERKELI	5
LEPIDOPTERA	NOCTUIDAE	EUXOA	MESSORIA	5 12
LEPIDOPTERA	NOCTUIDAE	PHLOGOPHORA	METICULOSA	5 12
NEUROPTERA	MYRMELEONTIDAE	HAGENOMYIA	MICANS	16
ORTHOPTERA	ACRIDIDAE	LOCUSTA	MIGRATORIA	17
LEPIDOPTERA	GELECHIIDAE	COLEOTECHNITES	MILLERI	9
DIPTERA	SCIARIDAE	RHYNCHOSCIARA	MILLERI	12
LEPIDOPTERA	PSYCHIDAE	MAHASENA	MINUSCULA	12
DIPTERA	SIMULIIDAE	PROSIMULIUM	MIXTUM	5
LEPIDOPTERA	SPHINGIDAE	PACHYSPHINX	MODESTA	5
COLEOPTERA	TENEBRIONIDAE	TENEBRIO	MOLITOR	10 17
LEPIDOPTERA	LYMANTRIIDAE	LYMANTRIA	MONACHA	5 12 16
COLEOPTERA	SCARABAEIDAE	ORYCTES	MONOCEROS	20
LEPIDOPTERA	NOCTUIDAE	DRYOBOTODES	MONOCHROMA	12
HEMIPTERA	CICADELLIDAE	COLLADONUS	MONTANUS	10
DIPTERA	DROSOPHILIDAE	DROSOPHILA	MONTIUM	13
LEPIDOPTERA	ARCTIIDAE	AMSACTA	MOOREI	12 19
COLEOPTERA	SCARABAEIDAE	RHOPAEA	MORBILLOSA	19
LEPIDOPTERA	BOMBYCIDAE	BOMBYX	MORI	5 6 7 8 10 12 13 14 19
DIPTERA	MUSCIDAE	GLOSSINA	MORSITANS CENTRALIS	17
DIPTERA	ITONIDIDAE	SITODIPLOSIS	MOSELLANA	16
ACARINA	TETRANYCHIDAE	TETRANYCHUS	MULTISETIS	17
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	MUNDUS	16
LEPIDOPTERA	TORTRICIDAE	CACOECIA	MURINANA	9 12 16
COLEOPTERA	DERMESTIDAE	ANTHRENUS	MUSEORUM	12 16
DIPTERA	SIMULIIDAE	CNEPHIA	MUTATA	5
LEPIDOPTERA	NOCTUIDAE	HADA	NANA	5
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	NANULUS	16
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	NANULUS CONTORTAE	12
LEPIDOPTERA	PIERIDAE	PIERIS	NAPI	9
LEPIDOPTERA	LIMACODIDAE	NATADA	NARARIA	9
COLEOPTERA	SCARABAEIDAE	ORYCTES	NASICORNIS	11 20
COLEOPTERA	GYRINIDAE	GYRINUS	NATATOR	13
HYMENOPTERA	PAMPHILIIDAE	ACANTHOLYDA	NEMORALIS	16
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	NEUSTRIA	5 12 16
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	NEUSTRIA TESTACEA	5 12 16
LEPIDOPTERA	NOCTUIDAE	TRICHOPLUSIA	NI	5 9 10 12
LEPIDOPTERA	SATURNIIDAE	HYLESIA	NIGRICANS	12
HYMENOPTERA	BRACONIDAE	CARDIOCHILES	NIGRICEPS	17
LEPIDOPTERA	NOCTUIDAE	AUTOGRAPHA	NIGRISIGNA	12
DIPTERA	CULICIDAE	AEDES	NIGROMACULIS	12
LEPIDOPTERA	CARPOSINIDAE	CARPOSINA	NIPONENSIS	12
HYMENOPTERA	DIPRIONIDAE	DIPRION	NIPPONICA	12

ORDER	FAMILY	GENUS	SPECIES	DISEASES			
HYMENOPTERA	SIRICIDAE	SIREX	NOCTILIO	5			
LEPIDOPTERA	NOCTUIDAE	SESAMIA	NONAGRIOIDES	9			
LEPIDOPTERA	NOCTUIDAE	RACHIPLUSIA	NU	12	16		
LEPIDOPTERA	PYRALIDAE	OSTRINIA	NUBILALIS	12	17		
LEPIDOPTERA	NOCTUIDAE	CATOCALA	NYMPHAEA	12			
LEPIDOPTERA	NOCTUIDAE	CATOCALA	NYMPHAGOGA	12			
LEPIDOPTERA	LYMANTRIIDAE	PORTHETRIA	OBFUSCATA	12			
LEPIDOPTERA	ARCTIIDAE	DIACRISIA	OBLIQUA	9	12		
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	OBSOLETA	12			
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	OBTECTUS	12			
LEPIDOPTERA	TORTRICIDAE	CHORISTONEURA	OCCIDENTALIS	12			
ORTHOPTERA	GRYLLIDAE	TELEOGRYLLUS	OCEANICUS	13			
LEPIDOPTERA	OLETHREUTIDAE	SPILONOTA	OCELLANA	12			
LEPIDOPTERA	SPHINGIDAE	SMERINTHUS	OCELLATA	5	12	16	
LEPIDOPTERA	SPHINGIDAE	SMERINTHUS	OCELLATA ATLANTICUS	12	16		
LEPIDOPTERA	NOCTUIDAE	EUXOA	OCHROGASTER	5	9	12	16
LEPIDOPTERA	PYRALIDAE	NACOLEIA	OCTOSEMA	12			
LEPIDOPTERA	YPONOMEUTIDAE	PRAYS	OLEELLUS	16			
LEPIDOPTERA	NOCTUIDAE	DIATARAXIA	OLERACEA	5	9		
DIPTERA	TIPULIDAE	TIPULA	OLERACEA	10			
HYMENOPTERA	TENTHREDINIDAE	NEMATUS	OLFACIENS	12			
LEPIDOPTERA	SATURNIIDAE	HEMILEUCA	OLIVIAE	16			
LEPIDOPTERA	NOCTUIDAE	DIGYDIA	OO	12			
LEPIDOPTERA	MEGALOPHYGIDAE	MEGALOPYGE	OPERCULARIS	9			
LEPIDOPTERA	GELECHIIDAE	PHTHORIMAEA	OPERCULELLA	9	12		
LEPIDOPTERA	TORTRICIDAE	ADOXOPHYES	ORANA	9			
LEPIDOPTERA	NOCTUIDAE	PLUSIA	ORICHALCEA	12			
DIPTERA	SIMULIIDAE	SIMULIUM	ORNATUM	10			
LEPIDOPTERA	NOCTUIDAE	PRODENIA	ORNITHOGALLI	12	16		
LEPIDOPTERA	NOCTUIDAE	RACHIPLUSIA	OU	12			
LEPIDOPTERA	NOCTUIDAE	ALETIA	OXYGALA LUTEOPALLENS	12			
HYMENOPTERA	DIPRIONIDAE	DIPRION	PALLIDA	12			
LEPIDOPTERA	TORTRICIDAE	AMELIA	PALLORANA	9			
LEPIDOPTERA	GEOMETRIDAE	SYNAXIS	PALLULATA	12			
DIPTERA	TIPULIDAE	TIPULA	PALUDOSA	10	12	16	
LEPIDOPTERA	SATURNIIDAE	COLORADIA	PANDORA	12	16		
LEPIDOPTERA	NYMPHALIDAE	ARGYNNIS	PAPHIA	12	16		
LEPIDOPTERA	SATURNIIDAE	ANTHERAEA	PAPHIA MYLITTA	5	12		
DIPTERA	DROSOPHILIDAE	DROSOPHILA	PAULISTORUM	17			
DIPTERA	CULICIDAE	CULEX	PECCATOR	10			
HYMENOPTERA	ARGIDAE	ARGE	PECTORALIS	12			
LEPIDOPTERA	GEOMETRIDAE	PHIGALIA	PEDARIA	12			
LEPIDOPTERA	TINEIDAE	TINEA	PELLIONELLA	5	12		
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	PELTIGERA	12			
LEPIDOPTERA	NOCTUIDAE	PODIOPLUSIA	PEPONIS	12			
NEUROPTERA	CHRYSOPIDAE	CHRYSOPA	PERLA	5	12		
LEPIDOPTERA	SATURNIIDAE	ANTHERAEA	PERNYI	5	12	13	16
HEMIPTERA	APHIDIDAE	MYZUS	PERSICAE	17			
LEPIDOPTERA	NOCTUIDAE	MELANCHRA	PERSICARIAE	9			
LEPIDOPTERA	TORTRICIDAE	SPARGANOTHIS	PETTITANA	12			
LEPIDOPTERA	LYMANTRIIDAE	NYGMIA	PHAEORRHOEA	16			
LEPIDOPTERA	GEOMETRIDAE	NEPYTIA	PHANTASMARIA	12			
LEPIDOPTERA	TORTRICIDAE	LATHRONYMPHA	PHASEOLI	9			
LEPIDOPTERA	SPHINGIDAE	CELERIO	PHILEUPHORBIAE	16			
LEPIDOPTERA	PIERIDAE	COLIAS	PHILODICE	12	16		
LEPIDOPTERA	LYCAENIDAE	LYCAENA	PHLAEAS	5			
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	PHLOXIPHAGA	12	16		
LEPIDOPTERA	NOCTUIDAE	CERAMICA	PICTA	5	12		
COLEOPTERA	BUPRESTIDAE	MELANOPHILA	PICTA	5	16		
LEPIDOPTERA	SPHINGIDAE	SPHINX	PINASTRI	5	12		
HYMENOPTERA	DIPRIONIDAE	DIPRION	PINDROWI	12			
LEPIDOPTERA	LASIOCAMPIDAE	DENDROLIMUS	PINI	12	16		
HYMENOPTERA	DIPRIONIDAE	DIPRION	PINI	12			
LEPIDOPTERA	GEOMETRIDAE	BUPALUS	PINIARIUS	5	12	16	
LEPIDOPTERA	TORTRICIDAE	CHORISTONEURA	PINUS	12			
DIPTERA	CULICIDAE	CULEX	PIPIENS	3	6		
DIPTERA	CULICIDAE	CULEX	PIPIENS QUINQUEFASCIATUS	12			
LEPIDOPTERA	THAUMETOPOEIDAE	THAUMETOPOEA	PITYOCAMPA	5	9	12	
LEPIDOPTERA	GEOMETRIDAE	ANAITIS	PLAGIATA	5	12		
LEPIDOPTERA	LYMANTRIIDAE	DASYCHIRA	PLAGIATA	12			
LEPIDOPTERA	ARCTIIDAE	PARASEMIA	PLANTAGINIS	5			
COLEOPTERA	SCARABAEIDAE	PHYLLOPHAGA	PLEEI	19			
LEPIDOPTERA	DANAIDAE	DANAUS	PLEXIPPUS	5	16		
DIPTERA	CHIRONOMIDAE	CHIRONOMUS	PLUMOSUS	5	10		
LEPIDOPTERA	LASIOCAMPIDAE	MALACOSOMA	PLUVIALE	12			
LEPIDOPTERA	PAPILIONIDAE	PAPILIO	PODALIRIUS	12			

ORDER	FAMILY	GENUS	SPECIES	DISEASES			
LEPIDOPTERA	LASIOCAMPIDAE	GONOMETA	PODOCARPI	13			
LEPIDOPTERA	NYMPHALIDAE	NYMPHALIS	POLYCHLOROS	16			
LEPIDOPTERA	SATURNIIDAE	ANTHERAEA	POLYPHEMUS	5	12	16	
HYMENOPTERA	DIPRIONIDAE	DIPRION	POLYTOMA	12			
LEPIDOPTERA	GEOMETRIDAE	ALSOPHILA	POMETARIA	5	9	12	
LEPIDOPTERA	OLETHREUTIDAE	LASPEYRESIA	POMONELLA	9	16		
LEPIDOPTERA	SPHINGIDAE	LAOTHOE	POPULI	5	12		
LEPIDOPTERA	GEOMETRIDAE	PROTOBOARMIA	PORCELARIA INDICATARIA	12			
COLEOPTERA	SCARABAEIDAE	ANOPLOGNATHUS	POROSUS	19			
LEPIDOPTERA	NOCTUIDAE	PANTHEA	PORTLANDIA	12			
LEPIDOPTERA	TORTRICIDAE	EPIPHYAS	POSTVITTANA	12			
LEPIDOPTERA	LASIOCAMPIDAE	COSMOTRICHE	POTATORIA	12			
LEPIDOPTERA	NOCTUIDAE	PRODENIA	PRAEFICA	12			
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	PRATTI BANKSIANAE	12			
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	PRATTI PRATTI	16			
LEPIDOPTERA	NOCTUIDAE	AUTOGRAPHA	PRECATIONIS	12			
LEPIDOPTERA	THAUMETOPOEIDAE	THAUMETOPOEA	PROCESSIONEA	5	12		
LEPIDOPTERA	NOCTUIDAE	TRIPHAENA	PRONUBA	5			
LEPIDOPTERA	SPHINGIDAE	PROSERPINUS	PROSERPINA	16			
HEMIPTERA	DELPHACIDAE	TAROPHAGUS	PROSERPINA	17			
LEPIDOPTERA	NOCTUIDAE	CRYOBOTA	PROTEA	12			
COLEOPTERA	SCARABAEIDAE	SERICESTHIS	PRUINOSA	10			
LEPIDOPTERA	SATURNIIDAE	SAMIA	PRYERI	5	12		
LEPIDOPTERA	LYMANTRIIDAE	DASYCHIRA	PSEUDABIETIS	12			
LEPIDOPTERA	LYMANTRIIDAE	EUPROCTIS	PSEUDOCONSPERSA	12			
DIPTERA	DROSOPHILIDAE	DROSOPHILA	PSEUDOOBSCURA	17			
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	PSEUDOTSUGATA	5	12	16	
LEPIDOPTERA	LYMANTRIIDAE	DASYCHIRA	PUDIBUNDA	5	12	16	
LEPIDOPTERA	PYRALIDAE	DICHOGRAMMOCIS	PUNCTIFERALIS	12			
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	PUNCTIGERA	9	12		
LEPIDOPTERA	ARCTIIDAE	DIACRISIA	PURPURATA	5	12		
LEPIDOPTERA	NOCTUIDAE	PAPAIPEMA	PURPURIFASCIA	9			
LEPIDOPTERA	SATURNIIDAE	SATURNIA	PYRI	5	12	16	
DIPTERA	CULICIDAE	ANOPHELES	QUADRIMACULATUS	10	14		
LEPIDOPTERA	ARCTIIDAE	EUPLAGIA	QUADRIPUNCTARIA	5			
LEPIDOPTERA	GEOMETRIDAE	ENNOMOS	QUERCARIA	12			
LEPIDOPTERA	LASIOCAMPIDAE	GASTROPACHA	QUERCIFOLIA	5			
LEPIDOPTERA	LASIOCAMPIDAE	GASTROPACHA	QUERCIFOLIA CERRIDIFOLIA	5	12		
LEPIDOPTERA	GEOMETRIDAE	ENNOMOS	QUERCINARIA	12			
LEPIDOPTERA	LASIOCAMPIDAE	LASIOCAMPA	QUERCUS	5			
LEPIDOPTERA	SPHINGIDAE	MANDUCA	QUINQUEMACULATA	9			
LEPIDOPTERA	PIERIDAE	PIERIS	RAPAE	5	9	12	16
LEPIDOPTERA	PIERIDAE	PIERIS	RAPAE CRUCIVORA	5	9	12	
LEPIDOPTERA	LIMACODIDAE	THOSEA	RECTA	17			
DIPTERA	CULICIDAE	CULEX	RESTUANS	17			
LEPIDOPTERA	TORTRICIDAE	ADOXOPHYES	RETICULANA	5	12		
LEPIDOPTERA	PIERIDAE	GONEPTERYX	RHAMNI	5			
COLEOPTERA	SCARABAEIDAE	ORYCTES	RHINOCEROS	11			
LEPIDOPTERA	ARCTIIDAE	FERICALLIA	RICINI	9	12		
LEPIDOPTERA	SATURNIIDAE	SAMIA	RICINI	5	12	13	16
LEPIDOPTERA	GEOMETRIDAE	BISTON	ROBUSTUM	12			
LEPIDOPTERA	TORTRICIDAE	CHORISTONEURA	ROSACEANA	12			
HYMENOPTERA	MEGACHILIDAE	MEGACHILE	ROTUNDATA	17			
LEPIDOPTERA	LASIOCAMPIDAE	MACROTHYLACIA	RUBI	12			
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	RUBRESCENS	9			
HYMENOPTERA	BOMBIDAE	BOMBUS	RUDERARIS	1			
LEPIDOPTERA	PYRALIDAE	WITLESIA	SABULOSELLA	10			
LEPIDOPTERA	CRAMBIDAE	DIATRAEA	SACCHARALIS	9			
LEPIDOPTERA	LYMANTRIIDAE	STILPNOTIA	SALICIS	12	16		
DIPTERA	CULICIDAE	CULEX	SALINARIUS	5	10	12	
LEPIDOPTERA	GEOMETRIDAE	OURAPTERYX	SAMBUCARIA	5			
ORTHOPTERA	ACRIDIDAE	MELANOPLUS	SANGUINIPES	4	12	19	
DIPTERA	CULICIDAE	URANOTAENIA	SAPPHIRINA	12	17		
LEPIDOPTERA	NOCTUIDAE	EUPSILIS	SATELITIA	9			
LEPIDOPTERA	NYMPHALIDAE	POLYGONIA	SATYRUS	12			
LEPIDOPTERA	NOCTUIDAE	PERIDROMA	SAUCIA	9	12	16	
LEPIDOPTERA	NOCTUIDAE	PLATHYPENA	SCABRA	9			
LEPIDOPTERA	EPIPASCHIIDAE	TETRALOPHA	SCORTEALIS	12	16		
LEPIDOPTERA	GEOMETRIDAE	CLEORA	SECUNDARIA	17			
LEPIDOPTERA	NOCTUIDAE	AGROTIS	SEGETUM	5	9	12	
LEPIDOPTERA	NOCTUIDAE	SYNGRAPHA	SELECTA	12			
LEPIDOPTERA	SATURNIIDAE	ACTIAS	SELENE	5	13		
LEPIDOPTERA	LYMANTRIIDAE	DASYCHIRA	SELENITICA	16			
LEPIDOPTERA	SATURNIIDAE	ANISOTA	SENATORIA	16			
LEPIDOPTERA	NOCTUIDAE	PSEUDALETIA	SEPARATA	9	12	13	
LEPIDOPTERA	NOCTUIDAE	HADENA	SERENA	5			

ORDER	FAMILY	GENUS	SPECIES	DISEASES
LEPIDOPTERA	GEOMETRIDAE	PTYCHOPODA	SERIATA	12 16
DIPTERA	TACHINIDAE	UGYMYIA	SERICARIAE	12
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	SERTIFER	12 16 17
LEPIDOPTERA	GEOMETRIDAE	SEMIOTHISA	SEXMACULATA	9
LEPIDOPTERA	SPHINGIDAE	MANDUCA	SEXTA	9 12
LEPIDOPTERA	LASIOCAMPIDAE	DENDROLIMUS	SIBIRICUS	9
DIPTERA	CULICIDAE	AEDES	SIERRENSIS	10 12
DIPTERA	CULICIDAE	ORTHOPODOMYIA	SIGNIFERA	17
COLEOPTERA	SCARABAEIDAE	GEOTRUPES	SILVATICUS	19
LEPIDOPTERA	LYMANTRIIDAE	EUPROCTIS	SIMILIS	5 12
LEPIDOPTERA	GEOMETRIDAE	PERIBATODES	SIMPLICIARIA	12
DIPTERA	CULICIDAE	WYEOMYIA	SMITHII	12
DIPTERA	CULICIDAE	AEDES	SOLLICITANS	5 10 12
COLEOPTERA	SCARABAEIDAE	AMPHIMALLON	SOLSTITIALIS	19
LEPIDOPTERA	NOCTUIDAE	APAMEA	SORDENS	9
LEPIDOPTERA	NOCTUIDAE	HADENA	SORDIDA	9 12
COLEOPTERA	SCARABAEIDAE	DASYGNATHUS	SP.	19
TRICHOPTERA	LIMNEPHILIDAE	NEOPHYLAX	SP.	12
COLEOPTERA	SCARABAEIDAE	OPOGONIA	SP.	10
COLEOPTERA	SCARABAEIDAE	ODONTRIA	SP.	10
DIPTERA	SIMULIIDAE	SIMULIUM	SP.	10
LEPIDOPTERA	LASIOCAMPIDAE	DENDROLIMUS	SPECTABILIS	5 12
HYMENOPTERA	SIRICIDAE	XERIS	SPECTRUM	5
LEPIDOPTERA	PYRALIDAE	DIORYCTRIA	SPLENDIDELLA	17
DIPTERA	CULICIDAE	ANOPHELES	STEPHENSI	3 5
COLEOPTERA	SCARABAEIDAE	GEOTRUPES	STERCOROSUS	19
DIPTERA	CULICIDAE	AEDES	STICTICUS	10
NEUROPTERA	HEMEROBIIDAE	HEMEROBIUS	STIGMA	5 12
DIPTERA	CULICIDAE	AEDES	STIMULANS	10
LEPIDOPTERA	GEOMETRIDAE	BISTON	STRATARIA	12
HEMIPTERA	DELPHACIDAE	LAODELPHAX	STRIATELLA	10
LEPIDOPTERA	GEOMETRIDAE	SELIDOSEMA	SUAVIS	12
LEPIDOPTERA	ARCTIIDAE	SPILARCTIA	SUBCARNEA	5 12
LEPIDOPTERA	LYMANTRIIDAE	EUPROCTIS	SUBFLAVA	12
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	SUBFLEXA	12
COLEOPTERA	LUCANIDAE	FIGULUS	SUBLAEVIS	19
DIPTERA	CULICIDAE	ANOPHELES	SUBPICTUS	17
LEPIDOPTERA	NOCTUIDAE	FELTIA	SUBTERRANEA	9
LEPIDOPTERA	LASIOCAMPIDAE	DENDROLIMUS	SUPERANS	5
LEPIDOPTERA	PYRALIDAE	CHILO	SUPPRESSALIS	9 10 12
COLEOPTERA	BUPRESTIDAE	AGRILUS	SUVOROVI POPULNEUS	5
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	SWAINEI	12
DIPTERA	COELOPIDAE	CHAETOCOELOPA	SYDNEYENSIS	13
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	TAEDAE LINEARIS	12
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	TAEDAE TAEDAE	12 16
DIPTERA	CULICIDAE	AEDES	TAENIORHYNCHUS	5 10 12 13
LEPIDOPTERA	NYMPHALIDAE	VANESSA	TAMEAMEA	16
HYMENOPTERA	SIRICIDAE	UROCERUS	TARDIGRADUS	5
DIPTERA	CULICIDAE	CULEX	TARSALIS	5 12 13
COLEOPTERA	SCARABAEIDAE	APHODIUS	TASMANIAE	13 19
ACARINA	TETRANYCHIDAE	TETRANYCHUS	TELARIUS	17
DIPTERA	CHIRONOMIDAE	CHIRONOMUS	TENTANS	12 17 19
LEPIDOPTERA	LYMANTRIIDAE	EUPROCTIS	TERMINALIS	16
HYMENOPTERA	BOMBIDAE	BOMBUS	TERRESTRIS	1
LEPIDOPTERA	NOCTUIDAE	PRODENIA	TERRICOLA	12
DIPTERA	CULICIDAE	CULEX	TERRITANS	5 10 17
HYMENOPTERA	BRACONIDAE	CHELONUS	TEXANUS	17
LEPIDOPTERA	LYONETIIDAE	BUCCULATRIX	THURBERIELLA	12
LEPIDOPTERA	SPHINGIDAE	DILINA	TILIAE	5
LEPIDOPTERA	GEOMETRIDAE	ERANNIS	TILIARIA	5 12
LEPIDOPTERA	GEOMETRIDAE	PHIGALIA	TITEA	12
DIPTERA	CULICIDAE	AEDES	TORMENTOR	12
LEPIDOPTERA	PYRALIDAE	PARAMYELOIS	TRANSITELLA	12
LEPIDOPTERA	SATURNIIDAE	HEMILEUCA	TRICOLOR	12 16
LEPIDOPTERA	LASIOCAMPIDAE	LASIOCAMPA	TRIFOLII	12
LEPIDOPTERA	NOCTUIDAE	DISCESTRA	TRIFOLII	12
LEPIDOPTERA	LIMACODIDAE	DARNA	TRIMA	9 13
DIPTERA	CULICIDAE	AEDES	TRISERIATUS	12 17
DIPTERA	ITONIDIDAE	CONTARINIA	TRITICI	16
COLEOPTERA	SCARABAEIDAE	PERICOPTUS	TRUNCATUS	13
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	TURBATA	12
LEPIDOPTERA	NOCTUIDAE	ADRIS	TYRANNUS AMURENSIS	5
ACARINA	TETRANYCHIDAE	PANONYCHUS	ULMI	13
LEPIDOPTERA	HEPIALIDAE	WISEANA	UMBRACULATA	9 12 19
LEPIDOPTERA	LASIOCAMPIDAE	DENDROLIMUS	UNDANS	5 12
LEPIDOPTERA	LASIOCAMPIDAE	DENDROLIMUS	UNDANS FLAVEOLA	12

ORDER	FAMILY	GENUS	SPECIES	DISEASES
LEPIDOPTERA	NOCTUIDAE	MOCIS	UNDATA	5
LEPIDOPTERA	NOCTUIDAE	PSEUDALETIA	UNIPUNCTA	5 9 10 12 13 16
LEPIDOPTERA	NYMPHALIDAE	AGLAIS	URTICAE	5 6 12 16
ORTHOPTERA	ACRIDIDAE	SCHISTOCERCA	VAGA	4
LEPIDOPTERA	GEOMETRIDAE	ERANNIS	VANCOUVERENSIS	12
LEPIDOPTERA	NYMPHALIDAE	AGRAULIS	VANILLAE	12
LEPIDOPTERA	ANTHELIDAE	ANTHELA	VARIA	12
LEPIDOPTERA	TORTRICIDAE	ACLERIS	VARIANA	12
DIPTERA	CULICIDAE	PSOROPHORA	VARIPES	10 12
LEPIDOPTERA	TORTRICIDAE	ARGYROTAENIA	VELUTINANA	9
LEPIDOPTERA	GEOMETRIDAE	ENYPIA	VENATA	12
LEPIDOPTERA	GEOMETRIDAE	PALEACRITA	VERNATA	5 12
COLEOPTERA	SCARABAEIDAE	RHOPAEA	VERRAUXI	19
LEPIDOPTERA	SPHINGIDAE	CELERIO	VESPERTILIO	16
LEPIDOPTERA	LYMANTRIIDAE	ORGYIA	VETUSTA	12
DIPTERA	CULICIDAE	AEDES	VEXANS	6 10
LEPIDOPTERA	ARCTIIDAE	ARCTIA	VILLICA	5 12
COLEOPTERA	SCARABAEIDAE	ANOXIA	VILLOSA	19
HYMENOPTERA	TENTHREDINIDAE	TRICHIOCAMPUS	VIMINALIS	12
LEPIDOPTERA	NOTODONTIDAE	CERURA	VINULA	5
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	VIRESCENS	5 12 16
HYMENOPTERA	DIPRIONIDAE	NEODIPRION	VIRGINIANA	12
LEPIDOPTERA	ARCTIIDAE	DIACRISIA	VIRGINICA	12
LEPIDOPTERA	ARCTIIDAE	APANTESIS	VIRGO	16
LEPIDOPTERA	TORTRICIDAE	TORTRIX	VIRIDANA	5 12 16
DIPTERA	DROSOPHILIDAE	DROSOPHILA	VIRILIS	17
DIPTERA	CALLIPHORIDAE	CALLIPHORA	VOMITORIA	10 12 16
LEPIDOPTERA	NOCTUIDAE	DIPAROPSIS	WATERSI	12
LEPIDOPTERA	THAUMETOPOEIDAE	THAUMETOPOEA	WILKINSONI	5 12
DIPTERA	DROSOPHILIDAE	DROSOPHILA	WILLISTONI	17
LEPIDOPTERA	LYMANTRIIDAE	PORTHESIA	XANTHOCAMPA	5
LEPIDOPTERA	NOCTUIDAE	ANTITYPE	XANTHOMISTA	5
LEPIDOPTERA	HEPIALIDAE	METAHEPIALUS	XENOCTENIS	13
LEPIDOPTERA	YPONOMEUTIDAE	PLUTELLA	XYLOSTELLA	9 12
LEPIDOPTERA	LASIOCAMPIDAE	DENDROLIMUS	YAMADAI	5 12
LEPIDOPTERA	SATURNIIDAE	ANTHERAEA	YAMAMAI	12 16
LEPIDOPTERA	NOCTUIDAE	HELIOTHIS	ZEA	5 9 12 13
COLEOPTERA	SCARABAEIDAE	COSTELYTRA	ZEALANDICA	10
LEPIDOPTERA	PYRALIDAE	ACROBASIS	ZELLERI	19

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SPECIES LIST CHECK	
NEW HOST RECORD	
NEW DISEASE RECORD	

AUTH

YEAR

TITL

REF

FAM

GEN

SPEC

PATH

SUBJ

CARD

Key.--List of diseases and disease groups, with their respective code numbers

DISEASE NAME	CODE
ACUTE PARALYSIS	1
CHRONIC PARALYSIS	2
CO2 SENSITIVITY	3
CRYSTALLINE-ARRAY VIROSIS	4
CYTOPLASMIC POLYHEDROSIS	5
DENSONUCLEOSIS	6
FLACHERIE	7
GATTINE	8
GRANULOSIS	9
IRIDESCENT VIROSIS	10
MALAYA DISEASE	11
NUCLEOPOLYHEDROSIS	12
OTHER NONOCCLUDED-VIRUS DISEASE	13
OTHER OCCLUDED-VIRUS DISEASE	14
PARALYSIS	15
POLYHEDROSIS	16
PRESUMED VIROSIS	17
SACBROOD	18
SPHEROIDOSIS	19
WATERY DISINTEGRATION	20
HAIRLESS-BLACK SYNDROME	21

The mission of the PACIFIC NORTHWEST FOREST AND RANGE EXPERIMENT STATION is to provide the knowledge, technology, and alternatives for present and future protection, management, and use of forest, range, and related environments.

Within this overall mission, the Station conducts and stimulates research to facilitate and to accelerate progress toward the following goals:

1. Providing safe and efficient technology for inventory, protection, and use of resources.
2. Developing and evaluating alternative methods and levels of resource management.
3. Achieving optimum sustained resource productivity consistent with maintaining a high quality forest environment.

The area of research encompasses Oregon, Washington, Alaska, and, in some cases, California, Hawaii, the Western States, and the Nation. Results of the research are made available promptly. Project headquarters are at:

Fairbanks, Alaska
Juneau, Alaska
Bend, Oregon
Corvallis, Oregon
La Grande, Oregon
Portland, Oregon
Olympia, Washington
Seattle, Washington
Wenatchee, Washington

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The FOREST SERVICE of the U.S. Department of Agriculture is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives — as directed by Congress — to provide increasingly greater service to a growing Nation.

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